

The green economy within an emerging new cosmology perspective: rethinking sustainability

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DECLARATION

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ABSTRACT

The concept of the ‘green economy’ was revived after the recent global financial crisis of 2007-2011. The different interpretations of the financial crisis led to multiple solutions being proposed about sustainability. However, the different analyses of and discourses on the green economy have remained dualistic, with the result that the (green) corporate industrial capitalist growth economy has continued to be the dominant discourse with little shift to considerations of sustainability.

This research provides a cosmological and discourse analysis of the various different discourses on the green economy. It aims to address the dichotomy of where only the evolving self is seen as living and purposeful within a dead, random mechanistic universe. Furthermore, it aims to provide an alternative vision and discourse on the green economy and sustainability. The scientific method of a rational discursive dialectic is broadened to include more intuitive, imaginative, speculative and visionary aspects.

Fresh insights from the emerging new cosmology and the emerging new field of archetypal cosmology can assist in the journey towards sustainability as they provide not only a critique of the underlying assumptions in the current discourses on the green economy, but also an emerging new philosophy, cosmology and consciousness by means of which one can rethink sustainable futures.

OPSOMMING

Die begrip ‘groen ekonomie’ beleef ’n herlewing na die globale finansiële krisis van 2007-2011. Verskillende interpretasies van die finansiële krisis het verskeie voorstelle vir oplossings rakende volhoubaarheid tot gevolg gehad. Die verskillende analyses van, en diskoerse oor, die groen ekonomie het egter dualisties gebly, met die gevolg dat die (groen) korporatiewe industriële kapitalistiese groei-ekonomie as dominante diskoers bly voortbestaan het, met min verskuiwing na oorwegings rakende volhoubaarheid.

Hierdie navorsing vervat ’n kosmologiese en diskoersanalitiese ondersoek na die onderskeie diskoerse rakende die groen ekonomie. Dit poog om die digotomie wat tussen lewende, doelgerigte, evoluerende mense en ’n nie-lewende, ewekansige, meganistiese heelal bestaan, aan te spreek, en om ’n alternatiewe visie en diskoers oor die groen ekonomie en volhoubaarheid daar te stel. Die wetenskaplike metode van ’n rasionele diskursiewe dialektiek word verbreed om meer intuïtiewe, verbeeldingryke, spekulatiewe en visionêre aspekte in te sluit.

Vars insigte vanuit die ontluikende nuwe kosmologie en die ontluikende nuwe veld van die argetipiese kosmologie kan van waarde wees in die reis op weg na volhoubaarheid, aangesien hulle nie net kritiek op die onderliggende aannames in huidige diskoerse oor die groen ekonomie inhou nie, maar ook ’n ontluikende nuwe filosofie, kosmologie en bewustheid waardeur die volhoubare toekoms herbedink kan word.

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LIST OF ACRONYMS AND ABBREVIATIONS

ACC	African Centre for Cities
AMCEN	African Ministerial Conference on the Environment
ANT	Actor-Network Theory
AU	African Union
BASF	Badische Anilin- und Soda-Fabrik
BP	British Petroleum
BRICS	Brazil, Russia, India, China, South Africa
CBDR	Common but Different Responsibilities and Respective Capabilities
CCS Carbon	Capture and Storage
CDM Clean	Development Mechanism
CLAES	Latin American Centre of Social Ecology
DNA	Deoxyribonucleic acid
DRR	Disaster Risk Reduction
EKC	Environmental Kuznets Curve
ETC	Action Group on Erosion, Technology and Concentration
EU	European Union
FTT	Financial Transaction Tax
GMO	Genetically Modified Organism
GDP	Gross Domestic Product
GND	Green New Deal
GNDG	Green New Deal Group
IBM	International Business Machines Corporation
ICLEI	International Council for Local Environmental Initiatives
ICT	Information, Communications and Technology
ILO	International Labour Organisation
IRP	International Resource Panel
IT	Information technology
ITUC	International Trade Union Confederation
KP	Kyoto Protocol
LCA	Long-Term Co-operative Action
LDCs	Least Developed Countries

LVC	La Via Campesina
MEC	Minerals Energy Complex
MFA	Material Flow Analysis
MLP	Multi-Level Perspective
NAPAs	National Adaptation Plans of Action
NASA	National Aeronautics and Space Administration
NDB	New Development Bank
OECD	Organisation for Economic Co-operation and Development
REDD	Reduced Emissions from Deforestation and Degradation
TEEB	The Economics of Ecosystems and Biodiversity
UK	United Kingdom
UN	United Nations
UNCSD	United Nations Convention on Sustainable Development
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
UNISDR	United Nations Office for Disaster Risk Reduction
USA	United States of America
USAID	United States of America International Development Aid

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Let ours be a time remembered for the awakening of a new reverence for life, the firm resolve to achieve sustainability, the quickening of the struggle for justice and peace, and the joyful celebration of life (Earth Charter 2000).

CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION

1.1.1 Background

The concept of the green economy was revived after the global financial crisis of 2007-2011, with broader links made to the environmental and climate crises (Death 2014; Tiaanhaar 2014). The green economy remains a complex concept and no international consensus or agreement has been reached on its meaning, use and usefulness for policy implementation (Khor 2011; Lander 2012; Death 2014). The different analyses and interpretations of the recent global financial crisis of 2007-2011 and the interlinking crises related to food, climate, environment, poverty and energy inform the framing of the green economy and the way one conceptualises and defines it as well as the proposed solutions.

Death (2014) identifies four global discourses on the green economy, namely *green revolution*, *green transformation*, *green growth* and *green resilience*. Some of these discourses emphasise equity and reducing risks, whilst others emphasise economic growth and innovation. In addition to these different discourses, Swilling and Anneck (2012) speak of a *just transition* to sustainability, drawing on the social theory of long-wave analysis. This analysis provides the metabolic case for why the industrial epoch has effectively reached the end of its 250-year historical cycle linked to a sixth green Kondratieff wave or the transition to sustainability. In developing countries the discourse on the green economy is further integrated into the dialogue on *developmentalism* wherein the State is seen as both institution and strategy to achieve (green) economic growth, with a strong focus on industrial policy and social compacts as evidenced in the African Union (2014) and the Economic Commission for Latin America and the

Caribbean (ECLAC 2014).

It is important to understand *who* is promoting the green economy, *who* will actually benefit from the idea, and *why* the concept is being revived at this time. The different narratives are competing for prominence; they all involve different actors or agencies in multilateral institutions, national governments, academic circles and civil society groups; and they occupy different political spaces in shaping the definition and implementation of the green economy.

1.2 RESEARCH PROBLEM STATEMENT AND RESEARCH OBJECTIVES

1.2.1 Research problem statement

Some of the interpretive lenses on the green economy referred to above are helpful, but they all remain anthropocentric and reductionist in addressing more reformist and structural levels of change. A view of the cosmos as possessing intelligence, memory, consciousness and intrinsic value worthy of respect and reverence is absent from most of the arguments put forward on the green economy and sustainability, leaving one with a mechanistic and disenchanted view of the universe and life. The assumption that each interpretative lens seems to make is that humans are separated from the cosmos and that only humans are consciously participating and creating to bring about a sustainable future. This scientific materialist approach has implications for sustainability, because this dualistic separation of cosmos and psyche does not fully incorporate the animated earth (*anima mundi*), but at best views the cosmos as passive. Hence the (green) corporate industrial capitalist growth economy remains the dominant discourse with little transition to considerations of sustainability (Boll & Mayer 2013; Bollier & Helfrich 2012; Bond 2013; Brand 2012; Cupula dos Povos 2012; Death 2014; Hathaway & Boff 2009; Houtart 2012; Lander 2012).

1.2.2 Hypothesis and research questions

Hypothesis: Human beings and the cosmos exist in a non-dual, mutually and consciously participatory relationship.

Fresh insights from the emerging new cosmology and the emerging new field of archetypal cosmology can assist in the journey towards achieving sustainability as they provide not only a critique of the underlying assumptions in the current discourses on the green economy, but also an emerging new philosophy, cosmology and consciousness by means of which one can rethink sustainability issues.

1.2.3 Research aims and objectives

This research aims at the following:

1. To critically analyse the current discourses on the green economy;
2. To address the modern dichotomy of a living, purposeful evolving self within a dead, random mechanistic universe - paving the way for a broader worldview inspired towards achieving greater inclusion and engagement in the shift towards sustainability;
3. To provide an alternative vision and discourse on the green economy and sustainability.

1.2.4 Importance of the research problem

The research is aimed primarily at promoting a philosophical, cosmological and consciousness level of transformational change. It is thus visionary in nature. The research is of interest to persons interested in the green economy, sustainability and cosmology, as it provides an analysis of the current discourses on the green economy by highlighting their limitations and provides an additional perspective on sustainability emerging from work on the new cosmology.

1.2.5 Limitations and assumptions of the study

Archetypal cosmology is still a new and emerging field of study. The term began to be used around 2008 with the first publication of the journal *Archai* in 2009. The diversity of fields and disciplines from where the new cosmology is emerging does not necessarily mean that these multivalent, multidimensional meanings and philosophical insights can easily be grounded or fully translated into current categories of thought or concepts such

as the green economy or sustainability. Balancing both the rigor of research with creativity and inspiration is the challenge. The scientific method of a rational discursive dialectic has been the dominant mode of research for the modern and postmodern era. This research attempts to broaden this method to include the more intuitive, imaginative, speculative and visionary aspects.

1.3 RESEARCH DESIGN, METHODOLOGY AND METHODS

Since the aim of this research is addressing worldview assumptions, the approach chosen is *philosophical-conceptual* in an attempt to bring to the surface underlying root assumptions and so to shift perspectives. Philosophical studies analyse arguments in favour of, or against, particular positions. Conceptual analysis considers words or concepts in order to bring about further clarification on, or elaboration of, their different meanings. Using *cosmological* and *discourse analysis*, this research highlights some of the limitations of each narrative and offers an emerging new cosmological lens as a meaningful interpretive perspective through which to conduct analysis on the green economy and to rethink sustainability.

Cosmology is related to and used interchangeably with concepts such as worldview and paradigm. A cosmology that articulates a story or ‘myth’ of the origins of the universe and gives meaning to our perceptions of reality can be scientific, religious or philosophical.

This research design is considered as non-empirical and makes use of secondary, grey and hybrid data for analysis. The study attempts to combine both the rigor of research as well as being open to creative inspiration.

1.4 RATIONALE FOR THE STUDY

The current discourses on the green economy focus on direct action or reformist and structural levels of change. This focus is both needed and necessary, but given the

urgency of the ecological and civilisational crisis we face, transformation also needs to be directed at the worldview level.

Interest in the emerging work on the new cosmology entails a combination of paying attention to meaningful co-incidences (synchronicity), resonating deeply with the subject matter, experiencing the grounded breath and energy felt when reading these works or upon hearing the writers speak, and feeling inspired and amazed within a re-enchanted cosmos.

1.5 CHAPTER OUTLINE

Chapter One introduces the problem statement, research objectives, research questions and rationale of the thesis based on the literature review. The research design, methodology and methods used are also outlined in this introductory first Chapter. Chapters Two to Seven provide a critical analysis of the various discourses on the green economy, namely the *green revolution* discourse, the *green transformation* discourse, the *green growth* discourse, the *green resilience* discourse, the *developmentalism* discourse, and the *just transitions* discourse. Chapter Eight narrates an emerging new cosmology beginning with the journey of the universe and the discourse on *integral ecology*. Chapter Eight serves as a bridge to Chapter Nine on the emerging new field of *archetypal cosmology*. Insights from integral ecology and archetypal cosmology are taken up in the final chapter to rethink ‘sustainability’.

1.6 LITERATURE REVIEW

1.6.1 Competing discourses on the green economy

The various analyses and interpretations of the recent global financial crisis of 2007-2011 linked to the multiple crises related to water, food, energy, poverty, environment and climate (otherwise termed a civilisational crisis) frame the different narratives on the green economy and the different solutions proposed. These are not watertight categories and several elements overlap in the different discourses. These competing discourses are

analysed in relation to their interpretation of and responses to the global financial crisis, their cosmology and the limitations of the solutions proposed by each approach. The discourse on integral ecology and the emerging archetypal cosmology perspective provide additional analysis and critique of each of the six identified discourses on the green economy. The final Chapter rethinks the sustainability discourse from the perspective of the emerging archetypal cosmology.

1.6.1.1 Green revolution

The global financial crisis, viewed in terms of the green revolution discourse, is linked to all the other multiple crises of food, energy, climate and the environment caused by the industrial capitalist growth system of debt fuelled by over-consumption of fossil fuels (Cupula dos Povos 2012; Bond 2013). This green revolution discourse sees the new green economy as ‘a wolf in sheep’s clothing’ (Lander 2012:2), with many calling for a ‘system change’ stating that ‘another world is possible’ (World Social Forum 2000). Deep ecologists (Drengson & Devall 2010; Naess 1987), material eco-feminists (Mies 1986; Pandey 2013; Salleh 2010a, 2014; Shiva 2005), indigenous communities, as well as community activists - together with academics (Acosta 2013; Gudynas 2013a, 2013b; Lander 2013; Martinez-Alier et al. 2014; Salleh 2014; Svampa 2013a, 2013b) - have all contributed to this critique of the capitalist system and proposed alternative visions of sustainability. They present the most diverse, creative, innovative alternatives born out of their daily struggles against the dominant neoliberal capitalist economy (Martinez-Alier et al. 2014). These groups seek radical, revolutionary change at the economic, political, spiritual, social, structural, institutional, civilisational and ecological levels. In the global south, ideas converge around *post-development* (Escobar 1992, 2008, 2014) and *alternatives to development* (Gudynas 2013b). In the global north, the ideas converge under the umbrella concept of *degrowth* (Brand 2014; Demaria et al. 2013; D’Alisa et al. 2014; Escobar 2014; Martinez-Alier et al. 2014).

1.6.1.2 Green transformation

The green transformation discourse presents another interpretation of the financial crisis linked to climate change and ‘peak oil’ (Death 2014; Green New Deal Group (GNDG)

2008; Tienhaara 2014; UNEP 2009). Through this interpretation and linkage, the solutions offered were initially addressing the ‘limits of growth’ (Meadows et al. 1972) through the GNDG (2008) proposal of financial regulation, but this soon evaporated and was subsumed by the Green Stimulus, and then replaced with the dominant discourse of the green growth economy. This discourse, predominantly conducted in the global north, emphasised green technology, energy efficiency and a just transition for the labour sector (Cock 2014; ILO 2010; ITUC 2009), but was critiqued as having neither improved livelihoods nor having created ‘decent’¹ jobs (Brand 2012). The basic assumptions of economic growth, progress and development are still valued in, and underpin, this discourse. The state is the institutional system to ensure this development is sustained, whilst the environment is simply meant to serve human needs (Brand 2012; Death 2014; Lander 2013; Salleh 2010a). The green revolution discourses (*degrowth* and *alternatives to development*) critique these assumptions.

1.6.1.3 Green growth

The dominant narrative informing understandings of the green economy is the discourse on ‘*green growth*’, otherwise termed as ‘*transition to a green economy*’ (UNEP 2011a), or what the World Bank (2011), Rio+20 (UN 2012) and BRICS (Brazil, Russia, India, China, South Africa) term ‘*inclusive green growth*’ (Bond 2013). Efficiency, innovation, competition, new green jobs, new investment opportunities in new technology and new market mechanisms are the hallmarks of this discourse (Death 2014; World Bank 2012). This discourse interpreted the global financial crisis as a market failure and as a response suggested the treatment of ‘*nature as capital*’ (UNEP 2011a:1-2). The ensuing of financialisation of nature’s reproductive capacities and ecosystem services produced new speculative market mechanisms (TEEB 2010) and new technology (ETC 2011) to extend the domination and control of humans over nature. This is in stark contrast to the ‘rights of mother earth’/nature and green revolution discourses. This green growth discourse is very much a business-as-usual approach of capitalist societies, which now extend their predatory practice to include an objectified nature that can be further exploited and dominated. This optimistic attraction to and fascination with new technology and new

¹ This is a contested term in South Africa.

markets to address the multiple crises are symptomatic of modern industrial societies governed by techno-science.

1.6.1.4 Green resilience

The green resilience discourse encompasses a variety of strategies, programmes and plans and is a more reactionary response to the recent global financial and broader environmental crises. The term ‘resilience’ is also incorporated in different ways as seen in national strategy plans (Federal Democratic Republic of Ethiopia 2011; Republic of Rwanda 2011; UNEP 2015). Other examples of the term are included in adaptation and disaster risk plans in the work of the United Nations Framework Convention on Climate Change and the United Nations International Strategy for Disaster Reduction (Singh 2015). In addition, one finds the term used in the various approaches of climate-resilient cities (ACC 2014; ICLEI 2014; Pieterse 2014), as well as in the critique of climate-SMART resilient agriculture programmes (Hoffmaister & Stabinsky 2012), and international trade (Khor 2011). The limitation of this approach is that it still operates within the dominant neoliberal system and mechanistic science cosmology that is here contended caused both the financial and the broader environmental crises.

1.6.1.5 Developmentalism

The global financial crisis invigorated the developmentalist discourse in the global south (Bressier-Pereira 2006; Swilling & Annecke 2012; Zalk 2014) with an assimilated green economy agenda as seen in the resolution taken by the African Union (2014:9) and the social compacts proposed by the Economic Commission for Latin America and the Caribbean report (ECLAC 2014). This discourse is later analysed around the role of the state, the fiscal arrangements suggested, the emphasis placed on structural transformation, infrastructure development, innovative technologies, equity, social compacts and industrial policy, and a position on growth, extractives and the environment. Developmentalism and the developmental state are then critiqued as representing a shift from the Washington Consensus to the ‘commodity consensus’ (Svampa 2013b), which sees the continuation of the neoliberal extractives and progressive neo-extractives agendas (Acosta 2013; Brand 2013; Guydnas 2013a; Lander

2013; Svampa 2013a, 2013b). Gudynas proposes what he terms as ‘*alternatives to development*’ (Gudynas 2013b), in contrast to *development alternatives*.

1.6.1.6 Just Transitions

In this discourse on the green economy, the financial crisis is seen as interlinked with the end of the industrial socio-ecological epoch (Fischer-Kowalski & Haberl 2007), the green technology wave (Perez 2002, 2007), and the end of the post-World War II long-term development cycle (Gore 2010 cited in Swilling & Annecke 2012), otherwise referred to as the ‘third great transformation’ (Fischer-Kowalski & Swilling 2011; Swilling et al. 2013; Swilling 2014b). This interpretation of the financial crisis has drawn various responses and contributions, which include the establishment of the International Resource Panel (IRP) under the United Nations Environment Program, whose work advocates for absolute resource reduction in the developed world, and a relative decoupling of economic growth rates from rates of resource use in the developing world. The work of the IRP (Fischer-Kowalski & Swilling 2011; Swilling et al. 2013; Swilling 2014a) focuses on integrating other transition theoretical positions such as the multi-level perspective (socio-technical approach) and urban metabolisms (material flows analysis) within the spatial-temporal urban city (Swilling et al. 2014).

1.7 AN EMERGING NEW COSMOLOGY AND THE DISCOURSE ON INTEGRAL ECOLOGY AND ARCHETYPAL ECOLOGY

A new cosmology has been emerging from across multiple fields such as quantum physics, new biology, complexity or systems theory, integral ecology, anthropology, philosophy, depth psychology and archetypal astrology. Many of these insights are leaning towards a speculative philosophy or ecology and encouraging a rethinking on sustainability.

This Chapter outlines the new story of the 13.7 billion-year journey of the expanding evolutionary universe (Berry 1999; Swimme & Berry 1992; Swimme & Tucker 2011a; Tucker 2009) condensed into one cosmic year (Swimme & Berry 1992). This evolution is

characterised by ‘cosmogenetic principles’, i.e. an increase in i) differentiation and complexity, ii) self-organisation and consciousness, iii) and reconnection, communion and relationship to the broader earth community (Swimme & Berry 1992). This approach is also referred to as an integral ecology (Berry 1999; Boff 1995, 1997; Hathaway & Boff 2009; Mickey et al. 2013). Additionally, this Chapter integrates an archetypal analysis of integral ecology to provide glimpses of an archetypal ecology and the emergence of archetypal earth communities.

1.8 AN EMERGING NEW COSMOLOGY: ARCHETYPAL COSMOLOGY

Enfolded within this epic cosmic journey is the human earthling story of the Western mind or psyche. Chapter Nine tells the story of the ideas that have shaped the Western mind and cosmology. In this story Tarnas (1991) also traces the changing understanding of archetypes.

The organising principles of the cosmos and psyche (mind) are referred to as the archetypes in archetypal cosmology (Tarnas 2012:40). Archetypes are active, impelling, constellating and actualising phenomena providing formal patterns and *dynamic* sources of energy in *creative, innovative, multidimensional, multivalent* and *participatory contexts* whilst remaining *indeterminate* (Tarnas 2012).

1.9 RETHINKING SUSTAINABILITY

The emerging new cosmology offers a shift in thinking from viewing the cosmos as a machine to seeing the cosmos as a living organism, from the deterministic to creative emergence, from the eternally static to evolution, from objectivity to participation, and from purposelessness to meaning. This shift in thinking offers creative ways of transitioning towards a more just, equitable and sustainable future. The scientific materialist approach created dualisms and separated cosmos and psyche, science and spirituality, and social and natural sciences, where only the evolving self was seen as living and purposeful within a dead, random mechanistic universe. However, the new

emerging cosmology offers an enchanted, living, intelligent, participatory, creative, conscious and purposeful universe.

An archetypal astrological perspective on the financial crisis provides a synchronistic pattern linked to previous global financial crises and periods of economic hardship: 1873-1876 Long depression; 1929-1933 Great depression; and the recent 2007-2011 global financial collapse all coinciding with the Saturn-Uranus-Pluto T-square (Tarnas 2012). The ontological, epistemological and teleological shifts taking place (explained shortly) require us to rethink the discourse on the green economy and sustainability. The final Chapter of this study is an attempt to rethink sustainability from an archetypal cosmology perspective and to provide the initial ideas on emerging archetypal earth communities.

The following Chapters (Chapters Two to Seven) provide a critical analysis of the various discourses on the green economy, namely, *green revolution*, *green transformation*, *green growth*, *green resilience*, *developmentalism*, and *just transitions*. The limitations of these approaches are highlighted, thus providing the rationale for considering the perspective of an emerging new cosmology – archetypal cosmology – to rethink sustainability.

CHAPTER 2: A CRITICAL ANALYSIS OF THE GREEN REVOLUTION DISCOURSE

2.1 INTRODUCTION

The Rio+20 Earth Summit (2012) discussed the green economy and produced the well-known formal document entitled '*The future we want*' (UN 2012). Less familiar and less reported on was the informal statement that came out of the parallel people's summit, where civil society groups from around the world gathered to present their alternative visions of the future (Cupula dos Povos 2012). Ahead of the Rio+20 Earth Summit, these civil society groups offered their interpretations of the global financial crisis (2007-2011) as part of their ongoing critique of the capitalist system alongside their rejection of the expansion of financial capital to include 'natural capital' within the global economy. This Chapter considers these marginalised perspectives and highlights some of the responses and alternatives to the proposed green economy. The final section highlights some of the limitations of this discourse on the green revolution and offers an analysis from an archetypal cosmology perspective.

2.2 INTERPRETATIONS OF THE GLOBAL FINANCIAL CRISIS 2007-2011

The discourse on the green revolution views the global financial crisis of 2007-2011 as part of the multiple crises of poverty, energy, food, climate and environment (or the civilisational crisis). The financial crisis is seen as symptomatic of deeper cultural problems found in modern capitalist societies such as the obsession with growth, the exploitation of nature, the dominance of financial capitalism and debt-fuelled consumption (Cupula dos Povos 2012; Bond 2013).

The early awakenings of this discourse can be traced back to Rachel Carson's work *Silent Spring* (1962). The environmental writers of the 1960s and 1970s began to spotlight the '*limits to growth*' (Meadows et al. 1972) and called for a radical overhaul of the

economic system to bring it in line with natural ecological cycles (Bookchin 1980; Illich 1973; Schumacher 1973 cited in Death 2014).

The interpretation of the global financial crisis forms part of an ongoing broader critique of the capitalist system as one of domination and exploitation both of humans and nature. For deep ecologists, anthropocentrism is the root of the ecological crisis as they consider all species and ecosystems to have equal intrinsic value to that of humans in that humanity is part of the ‘web of life’ at a physical, spiritual and psychic level (Drengson & Devall 2010; Hathaway & Boff 2009; Naess 1987), thus challenging the assumption of domination that is prevalent in modern industrial capitalist societies.

Our very language ‘raw materials’, ‘natural resources’ and even ‘concern for the environment’ betray us, underscoring the perception that the non-human world is at the service and disposal of humanity (Hathaway & Boff 2009:65).

Eco-feminism can be seen to be a deepening of the critique and analysis of both the patriarchal and anthropocentric domination of the capitalist system. Eco-feminism is a tool for analysing, critiquing and resisting economic globalisation by providing a new relationship of care, a different ethic and demonstrates responsibility as well as a being a social movement, a philosophy and a value system, a practice and a way of life (Pandey 2013).

Extending the Marxist and socialist critique on capitalist production and the understanding of labour and value that evolved with industrial capital, Ariel Salleh (2010a), a material eco-feminist, suggests that social theory be extended to include the unrecognised class which she terms *meta-industrial labour* located amongst marginalised indigenous groups, peasant workers and unpaid caregivers, whose input is in the sphere of the reproduction of human-nature metabolism (Salleh 2010a).

A materialist analysis of social relations, as well as a materialism that engages with ecological processes is needed to address the metabolic rift between

economics and ecology (Salleh 2010a:205).

The illusionary and transcendent ‘Father world’ predates the capitalist system and hence patriarchal motivations and logic predetermine capitalist relations (Salleh 2014). To address the dualisms found in humanity versus nature, production versus (re)production, Salleh (2014:36) believes an *embodied materialism* (humans as nature in embodied form) is needed.

2.3 RESPONSES TO THE NEW GREEN ECONOMY

The Rio+20 parallel peoples summit ‘Cupula dos Povos’ (2012) was an emphatic rejection of the United Nations Environment Program’s understanding of the green economy, i.e. a means to further commodify nature and ecosystem services under the rubric of ‘natural capital’. The increase in the militarisation of the state apparatus to enforce ‘natural capital’ has led to an increase in resistance and conflict between communities and the state, and between communities and transnational corporations in projects such as REDD (reduced emissions from deforestation and degradation) and ‘climate-smart agriculture’ (Cupula dos Povos 2012).

According to the green revolution discourse, the over-speculation and over-accumulation which precipitated the global financial crisis meant that financial capital needed to find new markets and hence the shift towards speculative reproductive services and capabilities of ecosystem provisioning (Cupula dos Povos 2012). These grassroots communities and social movements call for ‘*system change*’ stating that ‘*another world is possible*’ (World Social Forum 2000; Cupula dos Povos 2012). These groups seek radical change at the economic, political, spiritual, social, structural, institutional, civilisational and ecological levels. These innovative visions are discussed later under the umbrella concept of ‘degrowth’ adopted in the global north, and in the global south under the umbrella notion of ‘alternatives to development’. In working for the transformation of expert knowledge and power, these groups prefer to engage with local communities and social movements and include multi- and trans-disciplinary discourse and knowledge

production (Acosta 2013; Boll 2014; Bollier & Helfrich 2012; Escobar 2014; Gudynas 2013a, 2013b; Harcourt 2010; Lander 2013; Martinez-Alier et al. 2014; Salleh 2014; Swampa 2013a, 2013b).

2.3.1 The global south discourse: alternatives to development

Interestingly, many of these alternative approaches in the global south are born out of intense community struggles against the dominant discourse of a green economy that is neoliberal, growth and development oriented. Martinez-Alier et al. (2014) point out that many of the new vocabularies and ideas originating in local communities and social movements incur a lag time of about five to ten years before these ideas are absorbed into academic writing or bureaucratic circles.

2.3.1.1 Post-development and alternatives to development

The work of civil society organisation CLAES, the Latin American Centre of Social Ecology in Uruguay, directed by Eduardo Guydnas (2013b), differentiates between *'development alternatives'* and *'alternatives to development'* where *'alternatives to development'* is no longer based on the ideology of progress or growth and the appropriation of nature. The 'post-development' discussions in the 1980s by Latin American writers such as the Columbian Arturo Escobar (1992) and the Mexican Gustavo Esteva (Esteva 1992 cited in Guydnas 2013a; Esteva 2013) laid the groundwork for this understanding. The questioning of development or the idea of progress is very much a critique of modernity (Escobar 2005 cited in Guydnas 2013a), which takes for granted that development is an essentially linear process – a form of progress achieved by means of material accumulation (Guydnas 2013a) (further elaborated on in the Chapter on developmentalism).

2.3.1.2 Post-extractivism

Eduardo Gudynas and Alberto Acosta use the word *extractivism* when referring to the excessive exploitation of exhaustible non-renewable natural resources (Acosta 2013; Gudynas 2013a, 2013b). Both Gudynas and Acosta call for a transition to post-extractivism (discussed further in the Chapter on developmentalism).

2.3.1.3 Rights of mother earth and *buen vivir*

This discourse on granting nature rights is a response to the current civilisational crisis and addresses the mechanistic separation of humans and nature whereby nature is to be exploited, tamed and commercialised and natural resources used for the purposes of development (Acosta 2010). The dimensions of understandings on the rights of mother earth/nature draw from insights in earth jurisprudence (Cullinan 2003; Leimbacher 2008;), indigenous knowledge (Boff 2011), scientific knowledge (Berry 1999; Burdon 2011; Hathaway & Boff 2009; Solon 2014), and ethical or philosophical and religious knowledge (Berry 1999; Burdon 2011; Hathaway & Boff 2009; Solon 2014).

Indigenous concepts *suma qamaña* (from the Aymara culture) and *suma kawsay* (from the Quechua culture) from Latin America inform understandings on the Rights of Mother Earth (*Pacha Mama*) (Boff 2011). This addresses how to ‘live well’ (*Buen Vivir*) – as opposed to ‘living better’ through competition and accumulation of wealth. It includes living in harmony – thus with the mother earth divinity and with the broader earth community in a ‘democracy of the earth community’ that is beyond the European understanding of participatory and representative democracy (Boff 2011). These notions link to the other indigenous concepts such as territory and communal ethos (Escobar 2014; Svampa 2013a).

2.3.2 The global north discourse: degrowth

Degrowth serves as an umbrella term that encompasses multiple strategies and ideas found in the global north. Degrowth is a political, economic and (small) social movement concerned about the productivism and consumerism associated with industrialised

societies, whether ‘capitalist’ or ‘socialist’ (Demaria et al. 2013; D’Alisa et al. 2014). The following section elaborates on the various understandings that constitute the degrowth discourse.

2.3.2.1 Degrowth

The degrowth movement advocates for a reduction in production and consumption to address environmental issues and social inequalities. Degrowth thinkers oppose all forms of productivism (i.e. the belief that economic productivity and growth are the purpose of human organisation) and they want to see a shift from the growth to a degrowth economic model that has a re-localisation focus. These alternative rural and urban communities are disengaged from the growth-led market economy and can be found in the ‘transition towns’ movement originating in the UK, localisation projects such as local currencies, local food cooperatives, co-housing, waste reduction and recycling initiatives (Carlsson 2008; Conill et al. 2012 cited in Martinez-Alier et al. 2014).

The origins of ‘degrowth’ lie in the 1970s ‘limits to growth’ debates (Meadows 1972, updated 2004) and supported by numerous other works such as ‘*the end of growth*’ (Heinberg 2011), ‘*measuring what matters*’ (Fioramonti 2014), the ‘*solidarity economy*’ in which principles of self-determination and cooperation and their implementation are valued (Bauhardt 2014; www.solidarityeconomy.net/), ‘*deglobalisation*’ (Bello 2002), and also ‘*prosperity (ecological macroeconomics) without growth*’ (Jackson 2009) with close links to social metabolic analyses such as material flows, and carbon and water footprints (Martinez-Alier et al. 2014).

To shift from ‘accumulation of profits and capital by dispossession and contamination’ (see David Harvey, 2004), environmental justice organisations envision and propose that the economic system first shifts to a period of *degrowth* in rich countries. It is thought that greater social equality will be attained during this period, together with lower extraction rates of materials (via resource caps) and fossil fuels to stabilise climate change and end the environmental damage and social conflicts experienced at the frontiers of extraction. Once this condition is attained, then the economic system should

shift to a *steady-state economy* (Martinez-Alier et al. 2014).

2.3.2.2 The commons

Linked to degrowth initiatives and values is the commons movement. The defence of the commons is an old practice with a long history in many different countries that is being revived and gaining strength as *the commons movement*, particularly in struggles for environmental justice (Martinez-Alier et al. 2014). Those within the commons movement are opposed to the notion of the ‘tragedy of the commons’ (Hardin 1968), that conflates ‘open access’ and ‘the commons’, and also oppose what they term the ‘tragedy of enclosures’ (Martinez-Alier et al. 2014). Some within the commons movement focus only on natural resources; this is true of the 2009 Nobel Peace Laureate in Economic Science, Elinor Ostrom, who is best known for her work *Governing the Commons* (1990). Others within the commons movement not only address natural resources, but also defend public goods and ideas such as the Internet, intellectual property and knowledge (Boll & Mayer 2014; Hardt & Negri 2009; Harvey 2011).

Those within the commons movement have different understandings of institutional arrangements and engagement with governance or market structures. Ostrom (1990) highlighted how top-down government control and market privatisation have adverse effects on resource management and documented how collective ownership and collective institutional management supported effective production of resources against exploitation. The p2pFoundation (See: www.p2pfoundation.net) states that the global governance and global market for knowledge ought to be multi-stakeholder, i.e. peer-to-peer based technology in a ‘distributed network’ as a new way to organise and dialogue, and it offers a new process that builds on ‘non-representative democracy’ with multiple, autonomous and interdependent networks and peer groups. What is not clear, though, is how to achieve equitable access to these technologies. They may be available and affordable to the global north, but they are not accessible (because of intellectual property rights) or affordable (because of weak earning capacity) in the global south. Houtart (2012) still sees a role for UN structures that are democratically reformed and speaks of a regenerative economy and, as the title of his document indicates, he seeks a universal

declaration on the common good of humanity. Material eco-feminists prefer to delink altogether from the existing (capitalist) structures and set up an alternative system since capital cannot grow without the input of reproductive labour. By contrast, according to material eco-feminists, a reproductive economy is in principle autonomous and ecologically and socially sustainable (Mies 1986; Salleh 2014). According to David Harvey (2011), it does not matter so much about what institutional arrangement one sets up, as they will all have a key role to play in finding ways to organise production and exchanges. What he sees as important is how one manages distribution as well as consumption to cater for human needs in a creative way that engages collective labour to ensure the common good. Material eco-feminists would consider Harvey and eco-socialist human-nature relationships as still being productivist (Salleh 2010a, 2014; Harvey 2011).

2.3.3 Bringing together the discourses of the global north and the global south

There are also attempts to bring together the ‘degrowth’ discourse of the global north with the ‘alternatives to development’ discourse of the global south in a mutual discussion (Brand 2014; Escobar 2014; Martinez-Alier et al. 2014), although Gudyndas (2013a) does not think that the degrowth discourse will take off in the global south. Most of the growing populations in Latin America, Asia and Africa are found in urban slums with little or no access to water, energy and employment. For these groups the dialogue is framed around the ‘right to development’. However, elites in the global south (and global north) do need to focus on degrowth and less consumption and more sustainable ways of life that can bring about a more just and equitable transition.

In Latin America *post-extractivist* proposals (Gudyndas 2013a; Acosta 2013; Svampa 2013b) and the indigenous idea of protecting biodiversity and land (*Yasunizing*) in order to receive compensation for leaving the oil in the soil (as witnessed in the Yasuni National Park, Ecuador) are similar to the European idea of *resource caps*, i.e. a policy to reduce extraction of materials (related to the Factor 4 and later Factor 10 concepts promoted by the Factor 10 Club in 1994, which were based on eco-efficiency

improvements) and advocate for a reduction in global resource use as a means towards achieving sustainability (Martinez-Alier et al. 2014). These post-extractivist proposals are closely linked to the grassroots calls for wealthy nations to pay back what they call ecological debt and climate debt (Quito Statement 2007) and what eco-feminists more broadly call embodied debt (Salleh 2010a). Degrowth supports the concepts in the global south discourse such as *buen vivir* and ecological debt, and is opposed to debt-fuelled growth (Martinez-Alier et al. 2014).

The northern idea of the commons in the Latin American context is closely linked to their understanding of ‘*territories*’ and ‘*communal ethos*’ (Svampa in Boll et al. 2013). The concept of territorial rights is one used by rural and indigenous communities and refers to the geophysical, economic, political, cultural, social and religious/spiritual ‘place’ for establishing their lives (Escobar 1998, 2008; Svampa in Boll et al. 2013; Martinez-Alier et al. 2014). The commons, democracy and issues such as water management control have also been linked in community struggles.

Both poverty and ecological wellbeing are a consideration that southern countries have to factor in when considering resource use. A basic free minimum consumption amount for water and electricity is applied in South Africa, but communities still do not receive an adequate supply and face disconnections (Bond 2002, 2004a, 2004b). Currently utilities provisioning (water and energy) in South Africa are state owned and mega scale, whereas the heterogeneous mix of socio-technical systems is part of everyday African urban life (Jaglin 2014). The provisioning and management of water and energy cannot thus be a single, one-dimensional homogenous (i.e. state-owned) enterprise, but must include a heterogeneous mix for urban provisioning and transition. Since 2014 the degrowth movement in Europe has preferred a universal citizens income expressed in monetary terms and not physical entitlement (Raventos 2007 cited in Martinez-Alier et al. 2014).

Additional convergences are found in the calls for food and energy sovereignty. The global peasant farmer movement, La Via Campesina, calls for self-sufficiency and eco-sufficiency in what they term food sovereignty. They advocate for small-scale agro-

ecological food production as opposed to industrial agriculture and reject new climate technology such as carbon capture and storage, geoengineering and genetically modified crops, which are regarded as false solutions. Delinking from programmes in the global north (Bello 2002 cited in Salleh 2010a), and access to land for self-sufficiency and eco-sufficiency is preferred (Salleh 2010a). This is in contrast to the capitalist mode of production, which examines life-cycle assessments and footprints for measured and quantifiable efficiency rather than qualitative eco-sufficiency (Friibergh Position 2007 cited in Salleh 2010a).

Many of these communities are operating on the margins of society and outside of the state-market nexus and hence strengthening the bio-community in a broader sense. These creative alternatives offer innovative examples of new ‘habits’ that will, in time, become the new norm through ‘morphic resonance’ (to use Sheldrake’s (2012) term).

2.3.4 MOVEMENT BUILDING AS THE MEANS TO BRING ABOUT SYSTEM CHANGE

The green revolution discourse offers a strategy to link together the various collective struggles in a ‘political ecology from below’ for a global social liberation movement that can exert pressure on the political and economic elite and their institutions, believing that this will lead to a change in the (capitalist) system and its structures (Bond 2013; Cupula dos Povos 2012; Gaard 2011; Martinez-Alier et al. 2014; Pandey 2013; Salleh 2010a; Solon 2014; Wallis 2008; World Social Forum 2000).

2.4 LIMITATIONS OF THE GREEN REVOLUTION APPROACH

When viewed from the perspective of the work on the emerging new cosmology as well as others, several limitations of the green revolution discourse become evident.

2.4.1 Limitations of historical materialism

Ecological economics, political ecology and material eco-feminism have offered good critiques of the capitalist system, but they remain within the realm of scientific historical materialism. Several of the various disciplines that inform the green revolution discourse can be seen to be reductionist. Environmental economics (*valuing nature so as to pay the climate/ecological debt as discussed above*) entails economic reductionism; political ecology (*building political ecology from below as in the social movement building strategy described above*) entails political reductionism; deep ecology entails ecological reductionism; social ecology (*eco-socialism, eco-feminism narratives*) is seen as being socially reductionist. Material eco-feminism's extension of the socialist and Marxist class critique of capitalism that includes a meta-industrial labour class is also still reductionist. Work, play (ritual), dream (unconscious) are all aspects of the 'earth community' (Bellah 2011), whereas both eco-socialists and material eco-feminists focus only on (re)production and ignore these other aspects.

An 'integral ecology' (Chapter Eight) bridges and transforms the current dualism between spirituality and scientific (historical) materialism. New insights from quantum physics, new biology, depth psychology, archetypal astrology, and systems thinking, all challenge and decentre the current dominant reductionist or material scientific worldview. By implication, physics is decentred from the natural sciences, and economics (neoliberal, Marxist, Keynesian, socialist, etc.) is arguably decentred from the social sciences.

A strictly embodied material eco-feminist perspective, whilst correctly identifying and addressing patriarchy and the dualisms of transcendence-material and human-nature, however, still reflects its historical materialist roots. It simply adopts 'embodied materialism' as the new schema to replace the 'transcendence schema' of the father world. From the perspective of an archetypal cosmology, this is partly correct in the sense that the objectivist top-down transcendent reality governing astrological correlations and human experience (Hillman (1992) cited in Tarnas (2012:58) viewed this as the Roman-imperial monotheistic (ego) shifts from the One to the Many and thus the Many have

ontological value (Tarnas 2012:15). The Many (species, archetypal complexities, individuals) improvise and co-create in pluralistic, multicentric and multiple ways (Tarnas 2012:15). The ontology of an archetypal cosmology links closely to what Gudynas (2013a) refers to as ‘relational ontologies’ found in (Latin American) indigenous worldviews. This ontological shift has implications for our current monolithic understandings of both the nation-state (governance) and the globalised neoliberal market (economics), as well as for the supremacy of scientific materialism (i.e. historical materialism that views the material realm as the only reality) and is further discussed in the final chapter on rethinking sustainability. Shelldrake (2012), a new biology thinker writing from the perspective of the new cosmology, says that we need to be set free from this scientific priesthood.

2.4.2 Limitations of ‘planetary limits’ framing

Furthermore, this green revolution discourse still has a focus on ‘planetary limits’ (Rockstrom et al. 2009), but as Kaika and Swyngedouw (2011) caution, we need to pay attention as to the framing of the discourse on nature and note whose agenda and purpose it really serves. The global environmental crisis has built a fixed narrative or meaning of nature as being ‘out of sync’ and ‘in need of saving’, with implications for equality and justice. The dominant mode now uses ‘sustainable technical management’ and ‘good governance’ to continue doing the same with no real change to the status quo (Kaika & Swyngedouw 2011).

2.4.3 Limitations of rights of mother earth/nature

The discourse on the rights of mother earth/nature embraces various epistemological paradigms, and is the most visionary in aiming at shifting the collective consciousness, but the legal ‘rights-based approach’ is limited and constrained, because still operates within the limited horizons of the dominant capitalist system. The green revolution discourse seeks to change the capitalist system through a mix of direct actions and structural changes. This is needed but not sufficient. Change must also address root causes at the worldview level.

2.4.4 Limitations of *buen vivir*

The commons movements are contextualising innovative alternative ways of community living both in modern industrialised countries as well as in the global south. The ideas of ‘community ownership’ and ‘natural resources’ in the global north are still characterised by the subject-object and human-nature binaries not found in indigenous communities. The strength of the (Latin American) indigenous concepts ‘territories’, ‘*buen vivir*’ and ‘community ethos’ is the strong psychological, sacred, place-based earth community relationship that is often absent in industrialised urban cities. One of the limitations of the indigenous ways of conceptualising *buen vivir*, though, is the need to find dynamic equivalents globally. Industrialised countries and the Western mind have journeyed through the classical, axial and scientific technological eras, and have lost the sense of an enchanted universe or mythic *anima mundi* that is still present in traditional societies. The challenge for modern industrialised communities is to find ways of re-enchanting the universe. Some ideas or clues to consider as one answers the question ‘Is the world only material?’ would include: i) You think of someone you haven’t seen in years and then out of the blue they contact you and you say ‘I was just thinking about you’; ii) You walk into a crowded room and have the feeling of being stared at – you look up and there the ‘big brother camera’ is pointed in your direction, or a stranger across the room is staring at you; iii) How does a dog know when its owner is coming home at an unexpected hour? What is the nature of this synchronicity (meaningful coincidences) or sixth sense? (Rupert Sheldrake, a biologist, originally from Cambridge University, provides some of the most provocative and innovative insights on this, and much more, in his books *Dogs that know when their owners are coming home* (1991, 2011) and *The sense of being stared at* (2003) and *Science set free* (2012).

2.4.5 Limitations of the movement building strategy for system change

The problem here is that it is often believed that ‘change or liberation can occur through movement building and pressure or force from below’ (Bond 2013; Cock 2014; Cupula dos Povos 2012; Gaard 2011; Martinez-Alier et al. 2014; Pandey 2013; Salleh 2010a; Solon 2014; Wallis 2008; World Social Forum 2000) and this is still very much a reflection of Marxist roots in the mechanistic science of linear cause and effect, and will

be shown to be no longer relevant from the perspective of new cosmology in Chapter Eight. As Hathaway and Boff (2009) point out, our ability to effect change will not, however, depend on the sheer force and size of a movement – albeit in some circumstances it may be necessary to create a certain amount of ‘critical mass’ to be successful. More important, though, will be our ability to discern the right action with the right intention at the right time and place. While good analysis can play a role in this process, contemplation, intuition and creativity may be even more important (Hathaway & Boff 2009). To influence a situation, we need to apprehend the subtle undercurrents at work and make use of them, gently redirecting the flow of the system in a new direction. This kind of subtle, intuitive action may require the use of practices such as meditation, visualisation, art and other methods normally associated with spiritual paths (Hathaway & Boff 2009). Marxist thinking is rooted in historical materialism, which separates spirit and matter, with a focus on the latter. This strategy has yet to change the dominant capitalist system.

2.5 AN ARCHETYPAL COSMOLOGICAL EYE ON THE GREEN REVOLUTION DISCOURSE

The green revolution discourse is analysed here with the corresponding planetary alignments of the time, i.e. through an archetypal astrological eye. This analysis is then further synthesised to demonstrate some of the characteristics of archetypal cosmology.

2.5.1 The green revolution through an archetypal astrological eye

The diachronic and synchronic patterns found between previous planetary alignments and human experiences are explained below.

2.5.1.1 Uranus-Pluto square (2007-2020)

The current Uranus-Pluto square dynamic alignment of 2007-2020 is coinciding with previous revolutionary and emancipatory periods of historical changes, marked by rapid social and political upheaval, creativity and innovation found in the Uranus-Pluto alignment cycle in the 1960-1972 (conjunction) and the French Revolutionary epoch of

1787-1798 (Tarnas 2010:149).

The 1960-1972 period saw a revolutionary rise in multiple areas, e.g. the anti-colonial independent movements, the Chinese Cultural Revolution, the civil rights and black empowerment movements in the USA and South Africa, the sexual revolution, the feminism movement, the gay liberation movement, the youth countercultural movement, the environmental movement, the agricultural revolution and the space race (Tarnas 2010:150).

This alignment sees the mutual activation of two archetypes. The Plutonic principle of mass empowering and intensifying from the depths on the Promethean principle of revolt, liberation, sudden and unexpected explosive change, technological breakthroughs, innovation and creativity in the Pluto→Uranus. Likewise, with Uranus→Pluto, in which the Promethean sudden instantaneous awakening, with a technological focus, acts on the Plutonic-Dionysian which is related to the depths of nature, base evolutionary energies for chaotic destruction and regenerative transformation, the libido, birth and death (Tarnas 2010:163-166).

The Uranus→Pluto diachronic pattern with similar archetypal qualities of the historical period 1960-1972 was evident during the 2008 US elections, when the presidential candidates were a woman (Hilary Clinton) and an African-American (Barack Obama), revealing the outcome of the 1960s feminist and civil rights movements, with the youth giving strong support to Obama's election. Another Uranus→Pluto diachronic theme can be seen in the genesis of the ecology movement starting with Thoreau's work under the 1845–1856 Uranus-Pluto conjunction, followed by Rachel Carson's *Silent Spring*, the endangered species legislation, the first Earth Day, and the rise of both deep ecology and radical ecology during the 1960-1972 conjunction (Tarnas 2010:163-166). The term 'green economy' has been revived since the recent financial crisis and under the current Uranus-Pluto alignment of 2007-2020, and can be seen to build upon the ecological focus from previous Uranus-Pluto alignment periods.

Our current Uranus-Pluto broader transit of 2007-2020 has already witnessed revolutionary movements such as the Arab Spring, the Occupy movement and the Indignados, and is similar to previous Uranus-Pluto alignments of the French Revolutionary epoch of 1787-1798 and the 1960-1972 period (Tarnas 2010). In considering the various green economy discourses, the name 'green revolution' is very apt as this perspective seeks radical, revolutionary system change at every level, and associates and stands in solidarity with all revolutionary movements, including the Arab Spring and the Occupy movements.

2.5.1.2 Saturn-Uranus-Pluto T-square (2008-2011)

The beginning of the Occupy movement in the USA in September 2011 with the twin Indignados movement in Europe was a response to the financial crisis, the bank bailouts and austerity measures. The heavy-handed police reaction was also seen in this T-square. In addition, there have been mounting political tensions, turmoil and the impulse for independence, e.g. Syriza in Greece. Diachronic patterning is also evident: e.g. the mid-1790s Reign of Terror during the French Revolution, the mid-1960s and the revolution in China under Mao and the Cultural Revolution with the diachronic reflection in India in late 2010 and the insurgence of Maoist destructive forces into rural India to overthrow the Indian government (Tarnas 2010:185).

This archetypal complex is also associated with revolt against the underworld such as drug cartels, the press and others. Both Tarnas (2010) and Le Grice et al. (2012) cite many examples here. Perhaps the best known would be that of Wikileaks and Julian Assange's release of troves of classified American diplomatic cables in November 2010. This release was also seen as the trigger for the Arab Spring uprising beginning in December 2010.

Closely linked is also the need for individual freedom of expression felt in the face of oppression, e.g. Nobel Peace laureate, Malala Yousafzai, the girl who blogged in favour of education for women and was shot in the head and neck by Taliban militants in October 2012; the self-immolation of Mohamed Bouazizi in Tunisia on 17 December

2010 that triggered the Tunisian revolution and the wider Arab Spring (beginning of Tunisian uprising 18 December 2010) (Le Grice et al. 2012:228-229). The intense and sudden rebellious expression with the classical symbol of fire, instinctual empowerment and burning passion or self-destruction is characteristic of the Plutonic principle. Together with Uranus, the intense impulse is to overthrow at whatever cost and the Saturn-Pluto effect of extreme suffering and painful death (Le Grice et al. 2012).

2.5.1.3 Jupiter-Uranus conjunction (March 2010-April 2011)

Jupiter moved into conjunction with Uranus and as such was part of the Saturn-Uranus-Pluto T-square from March 2010 to April 2011. The energies of this alignment between Jupiter-Uranus served as a catalyst for the peaking of the last Uranus-Pluto alignment in the 1960-1972, specifically 1968-1969, with the lunar landing, the pinnacle of the student protest movement and countercultural mass music festivals (Tarnas 2006:303-4). Cultural and psychological change, technological advancements, sudden awakenings, new beginnings, euphoric celebration on a wide scale are all associated with this archetypal complex.

The Arab Spring was launched during the recent Jupiter-Uranus alignment in 2011 (Le Grice et al. 2012) that led to multiple revolutionary uprisings and social unrest and unleashed the impulse for liberation and the optimism for new possibilities. This was evident with the toppling of old regimes in Egypt and Tunisia with the empowering of young people.

In the green revolution discourse the first indigenous Bolivian president Evo Morales convened a meeting bringing together about 35,000 activists, grassroots communities, scientists and heads of state in Cochabamba in April 2010, where a people's declaration on Climate Justice and the Rights of Mother earth was issued and presented at the United Nations Framework Convention on Climate Change. This movement built on earlier attempts to assert the rights of mother earth by others and one can see the Uranian aspects of air, carbon, climate together with Jupiter, which expands the concept of rights to include 'mother earth' and not only humans.

2.5.2 ARCHETYPAL COSMOLOGICAL CHARACTERISTICS EVIDENT IN THE GREEN REVOLUTION DISCOURSE

The green revolution discourse placed an emphasis on greater participation with previously excluded and marginalised voices for inter- and trans-disciplinary knowledge production as evidenced in the inclusion of terms such as *buen vivir* from (Latin American) indigenous peoples. Archetypal cosmology extends *participatory* understandings to include the aspects of exteriority as well as interiority, i.e. both the unconscious and the conscious. Both humans and the animated cosmos participate in a co-creative, non-dual relationship or sacred I-Thou marriage (Tarnas 2012). Archetypal manifestations reflect and respond to individual and collective aspirations and dispositions and to the quality of human participatory consciousness and unconsciousness, according to Tarnas (2012). Archetypal cosmology shares the ontological shift similar to the extending of rights to mother earth found in the green revolution discourse. Archetypal cosmology further elaborates on this ontological shift – from the One to the Many (complexes, cycles, species, archetypes), i.e. from the unmanifest to the manifest, from the ruling archai to the people (Tarnas 2012).

Archetypal cosmology thus includes the ontological (essences) and the epistemological (categories), whilst simultaneously being both immanent (*as articulated by material eco-feminists*) and transcendent (Tarnas 2012; italics added). Archetypes are thus *multidimensional* – i.e. archetypes are autonomous patterns of meaning that cannot be localised in a particular dimension of being (Tarnas 2012:43). Archetypes manifest in multiple modes. The expanded epistemological understandings that archetypal cosmology brings, as well as the ontological shift, have implications for governance, economics and for the dominant scientific material or post-modern worldview.

Archetypes are not concretely predictable and don't cause revolutions, but rather 'archetypes and archetypal complexes are potentialities, "tendencies to exist", like probability waves, particles, and the collapse of the wave function' (Tarnas 2012:49), i.e. archetypally predictive. The complex multi-causal interactions and co-determining

factors make archetypes unpredictable. Archetypes are thus *indeterminative*. In addition, archetypes are *contextually* influenced and *dynamic*. Archetypes are not abstract concepts but rather *multidimensional* forces capable of affecting one's consciousness, overwhelm one with emotions and images, and can possess an entire culture or epoch (Tarnas 2012:40). These concepts are further elaborated on in Chapter Nine.

2.6 CONCLUSION

The green revolution discourse sees the financial crisis as part of the broader civilisational crisis caused by the neoliberal regime of economic growth. This discourse involves community activists, indigenous groups and academics both in the global south and global north in dialogue for multi- and trans-disciplinary knowledge production and action. Proposals and alternative utopias in this discourse are among the most diverse, creative and innovative, as they seek radical revolutionary change with a focus on (re-) localisation and more harmonious, equitable relationships both between humans and within the broader earth community. In the global south ideas converge around *post-development* and *alternatives to development*, while in the global north the ideas converge under the umbrella notion of *degrowth*.

Multiple cosmologies intersect in this discourse – traditional/indigenous, religious, mechanistic science and elements of a new emerging cosmology – providing a very textured dialogue and re-imaginings of an ecologically sustainable civilisation. These marginalised groups are already creating alternatives outside of the state-market system and structures, and in a sense they represent the new evolving habit that will become the norm through morphic resonance.

However, many of the disciplines (ecological economics, political ecology, deep ecology, material eco-feminism) informing this discourse still have their roots in scientific materialism and remain reductionist. An integral ecology (discussed in more detail in Chapter Eight) decentres scientific materialism and by implication economics (neoliberal, Marxist) is decentred. Despite their global movement building strategy, these disciplines

have yet to effectively change the dominant belief system on which the green capitalist economy is built. This discourse is still framed within the ‘planetary limits’ and this serves to advance the global elite rather than bring about sustainable and equitable alternatives. Their advocates’ emphasis on the rights of mother earth is constrained within the neoliberal system, and indigenous concepts such as *buen vivir* have yet to find dynamic equivalents and to re-enchant the post-modern mind.

An archetypal astrological analysis on the green revolution discourse provided examples of diachronic and synchronic patterns of correlation between Uranus-Pluto planetary alignments and collective human experience and consciousness as evinced in revolutionary periods such as the French Revolution (1787-1798) and the tumultuous 1960-1972 period, and the current Uranus-Pluto 2007-2020 period. The *multidimensional* characteristic of archetypes simultaneously included both the ontological (essences) and the epistemological (categories), and both the immanent and the transcendent. The green revolution discourse focuses on a more participatory inclusion of marginalised communities and extending the concept of rights to mother earth. Archetypal cosmology expands this *participatory* inter-and trans-disciplinary knowledge production to include the non-dual, reflective and responsive archetypal manifestations and archetypes. This *participatory* characteristic of archetypes was further understood as being *dynamic*, *indeterminative* and influenced by *context*. The ontological shift found in both the green revolution discourse and archetypal cosmology has implications for governance (i.e. the monolithic nation-state), economics (mono neoliberal markets) and scientific (historical) materialism. These are discussed further in Chapter Ten on rethinking sustainability.

CHAPTER 3: A CRITICAL ANALYSIS OF THE GREEN TRANSFORMATION DISCOURSE

3.1 INTRODUCTION

The green transformation discourse was one of the initial responses to the global financial crisis and has similarities and overlaps with the more dominant green growth discourse (as the next Chapter shows). The main aim or goal of this discourse can be seen in the outcome document of Rio+20 (UN 2012), *The Future We Want*, which views the green economy as a means to achieve sustainable development (UN 2012, III, 26). Drawing its inspiration from Roosevelt's New Deal of the 1930s, the prospect of a '*Global Green New Deal*' was seen as the next stage of human progress, akin to the industrial revolution (UNEP 2009). The Green New Deal (GND) advocated for investment in green industries to create jobs to address the global financial crisis and reduce poverty (Barbier 2010) with a shift to a low-carbon economy. This discourse is recognisable by its explicit focus on social justice, equity, redistribution and intergenerational concerns. The basic assumptions of economic growth and the current state system to ensure this development are maintained. Natural resources are to be used to serve human development and to this extent the green transformation discourse does not depart from the current neoliberal system.

This Chapter examines how the green transformation discourse interpreted the financial crisis; its responses in relation to the state, the market, the financial sector, technology, labour and inequality; and its understandings of growth and sustainable development. The final section highlights the limitations of the green transformation discourse, with additional analysis and a contribution from archetypal cosmology.

3.2 INTERPRETATION OF THE GLOBAL FINANCIAL CRISIS 2007-2011

The causes of the environment and economy crises are addressed simultaneously in this discourse (Death 2014; Tienhaara 2014). This is evidenced in the UNEP's report on the

Global GND, which begins ‘The world today finds itself in the worst financial and economic crisis in generations’ (UNEP 2009: 1), and also in the British-based GNDG (2008) report:

The triple crunch of financial meltdown, climate change and ‘peak oil’ has its origins firmly rooted in the current model of globalisation. Financial deregulation has facilitated the creation of almost limitless credit. With this credit boom have come irresponsible and often fraudulent patterns of lending, creating inflated bubbles in assets such as property, and powering environmentally unsustainable consumption (GNDG 2008:2).

3.3 RESPONSE TO THE GLOBAL FINANCIAL CRISIS

As a solution to the triple crisis resulting from the overlap of the financial crisis, climate change and the foreseeable end of global oil reserves, the Green New Deal Group (GNDG) proposed to revitalise the 1930s New Deal strategy adopted by Franklin D. Roosevelt. After the Great Crash of 1929 Roosevelt proposed structural transformation in the finance and tax sectors as well as in the energy sector (GNDG 2008).

3.3.1 The role of the state, the market and finance sector

The GNDG argued that the British government should address financial regulation by tightening credit controls, ensuring against bank and finance group mergers, and spotlighting derivatives and financial instruments (GNDG 2008:24). The ultimate aim of these policies was to regulate and rein in the financial sector (GNDG 2008:25). The GNDG also proposed the reintroduction of capital controls, closing tax havens, as well as debt cancellation (GNDG 2008:24–27). This position on reining in the financial sector is only found in the Green New Deal, but not in the Green Stimulus or Green Economy plans (Tienhaara 2014).

The GNDG plan included public and private sector investment in renewable energy, with support funding from carbon taxes and a high price for carbon on the carbon market, with

additional funding for the state from tax on oil and gas companies (GNDG 2008:36-37). President Obama's GND also included public sector investment in networked infrastructures (Barbier 2010 cited in Swilling & Annecke 2012).

In this discourse on green transformation existing institutions bring about the transformation within the current capitalist community of states; these institutions would include policies and strategies such as public investments and fiscal stimulus for 'green ends' (Death 2014:7).

3.3.2 The role of technology

This discourse has a strong focus on investing in green technologies, primarily renewable energy, for kick-starting global growth (UNEP 2009). According to UNEP (2009), an investment of one percent of global GDP over the next two years could provide the critical mass of green infrastructure needed to seed a significant greening of the global economy. Reducing consumption is also advocated in the Green New Deal, but not found in the Green Stimulus or Green Economy (Tienhaara 2014). The transfer of green technology and finance to developing countries is still hampered by controls on intellectual property rights and disagreements based on historical responsibilities and equity, as was evidenced at the Rio+20 earth summit, and in the ongoing UN negotiations on climate change and sustainable development goals.

3.3.3 Labour and a just transition

The discourses on green transformation as well as on green growth link the importance of investments required in high technology industries with green jobs. In addition, the green transformation addresses the issues of social justice, intergenerational justice, equity and redistribution where growth is the means to accomplish this goal (Death 2014). The GND advocated for investment in green industries to create jobs to address the global financial crisis and reduce poverty (Barbier 2010) with a shift to a low-carbon economy. The International Labour Organisation (ILO) (2013:xiv) also advocates for an increase in green jobs with what they call a 'just transition'. The International Trade Union Confederation (ITUC) also supports a just transition towards sustainability with a focus

on sustainable decent jobs and livelihoods (ITUC 2009:14). The ILO views a ‘just transition’ as the transition towards a low-carbon economy that it is both climate resilient as well as taking into account labour, so that public policy maximises the benefits accrued to workers and their communities whilst minimising the hardships and risks in this needed transformation (ILO 2013).

Brand (2012:13-15) disagrees that the green economy provides improved livelihoods and creates more jobs for the following reasons: green jobs do not necessarily equate with good jobs as within eco-sectors the level of unionisation is weak and working conditions bad; less skilled and older workers are displaced in the shift to green technologies; capital and company directors decide on investments and associated jobs; green jobs overlook that social labour – paid and unpaid – must be fundamentally re-organised and take into account gender, class and ethnic divisions.

However, these understandings of this ‘just transition’ vary and range from simply a ‘paradigm shift’ to a ‘regime change’ (Cock 2014:31). Two different positions can be identified. The first approach is more reformist, defensive and protectionist focusing on green jobs, social protection, retraining and consultation. The second approach to a just transition is more transformative in that it seeks an alternative growth path and new socialist ways of producing and consuming; this approach is more congruent with the transformative model of a green economy (Cock 2014:31). To bring about the change in the capitalist system will need the joining together of both the labour and the climate justice movement (Cock 2014).

Material eco-feminists deepen the critique by stating that gender is not even considered in the GND (Bauhardt 2014). Productive and reproductive modes co-exist, because capital cannot grow without the input of reproductive labour (Salleh 2010a). By contrast, a reproductive economy is in principle autonomous, ecologically and socially sustainable (Mies 1986; Salleh 2010a). ‘The old left really ought to give up trying to turn grassroots activists into clones of the industrial proletariat’ (Salleh 2010a:7).

According to Salleh (2010a), the UNEP Green New Deal is a new development model that will cause people, previously living in economic sufficiency and reproductively caring for their habitat, to be sucked into the capitalist monetary system, because the reproductive services of their ecosystems (habitat) are now considered as natural capital.

3.3.4 The position on growth

The lines are blurred on what the exact position is on growth in this green transformation discourse. Initially the GNDG report spoke of ending growth, but then later added investment ideas to boost economic recovery (capitalist growth) (GNDG 2008; Tienhaara 2014). Those advocating the GND also suggested the Green Stimulus and these conflicting ideas would raise questions about their commitment to the ‘limits of growth’ (Tienhaara 2014). Tienhaara (2014) sees that the GND as attempting to redirect finance and investments towards energy efficiency and renewal energy projects, and in so doing boost short-term growth and begin to steer the British economy away from a finance-driven model of capitalism.

Most of the interest in the green economy discourse (GND, Green Stimulus and Green Economy) has been in developed countries (Tienhaara 2014). Both the discourses on green transformation and green growth have a focus on economic growth, but the idea of growth per se is challenged in developed countries by various other discourses and movements such as degrowth, as seen in the green revolution discourse.

3.4 LIMITATIONS OF THIS DISCOURSE

The limitations of this approach could well be in its shallow analysis of the financial crisis. It may well be that the root problem is much deeper and much more than simply the triple crunch of financial meltdown, climate change and ‘peak oil’ rooted in the current globalisation model. Just as the GND linked the current global financial crisis with the Great Depression of the 1930s (taking a leaf out of Roosevelt’s plan and advocating for investment in green industries to create jobs to address the global financial crisis and reduce poverty), the perspective of an archetypal cosmology provides

additional insights. An archetypal lens reveals diachronic patterns in archetypal planetary alignment correlating with human history and experience. The various global financial crises and periods of economic hardship: 1873-1876 (the Long depression), 1929-1933 (the Great depression) and the recent financial collapse (2008-2011) all coincided with the Saturn-Uranus-Pluto T-square (Tarnas 2010). Archetypal astrology provides examples of both diachronic and synchronic patterns of archetypal planetary alignments in human history resembling a mysterious correlation patterning that is not causal or deterministic, as found in mechanistic science, but rather co-creating and participatory within an ensouled cosmos.

Additional insights from an emerging new cosmology perspective show that as the universe is expanding, dark matter and dark energy are increasing and now constitute 96 percent of reality (Sheldrake 2012:82,83). This varies according to place and time within the 'quintessence field' and is mediated through the quantum-vacuum field (i.e. zero-point field) teeming with energy. Sheldrake (2012) suggests that some of this new energy could be tapped by new technologies, which could have tremendous economic and social ramifications. Several people, using unconventional methods, have produced devices that have tapped into this free energy or zero-point energy (quantum vacuum field), similar to free solar or wind energy. Unfortunately, mainstream science and dogmas control research funding, leading to the development of fringe sciences such as these unconventional energy-generating devices (Sheldrake 2012). The green transformation discourse was very much a missed opportunity, as it linked the financial crisis, climate change and peak oil to conventional science, conventional decision-making, conventional funding apparatus and conventional institutions.

The myth of progress in this discourse on green transformation as well as the discourse on green growth (see next chapter) must be seen in the light of the growing ecological decline in biodiversity, as well as the social inequality and the growing green revolution discourse and alternatives being presented. This discourse does not question the market-state dichotomy and relies heavily on new technologies as enabling the solution to

environmental crises. Organised labour has yet to bring about the necessary socio-economic or political transformational shift.

3.5 AN ARCHETYPAL COSMOLOGICAL EYE ON THE GREEN TRANSFORMATION DISCOURSE

The green transformation discourse is analysed here with the corresponding planetary alignments of the time, i.e. through an archetypal astrological eye. This is then further synthesised to demonstrate some of the characteristics of archetypal cosmology.

3.5.1 The green transformation discourse through an archetypal astrological eye

3.5.1.1 Jupiter-Neptune conjunction (February 2009-March 2010)

This complex reflects an atmosphere of hope, high ideals and social compassion as well as the shadow of idealism, rhetoric or charisma with little substance – all seen in Obama (Tarnas 2010). Tarnas also mentions the parallels between Franklin Roosevelt, who became president at the end of the Great Depression in 1929-1933, and Barack Obama, who took office at the beginning of the financial crisis of 2008-2011 – both men were born under Jupiter-Neptune and entered office under a Jupiter-Neptune conjunction (Tarnas 2010:192).

The green transformation discourse specifically linked the 1929-1933 global financial crisis with the recent global financial crisis of 2007-2011. The GNDG (2008) proposals were specifically inspired by Roosevelt's New Deal Strategy, with cautious optimism about jobs and it included opportunities in the energy and technology sector (Saturn-Uranus-Pluto).

In the green revolution discourse the indigenous concept of *buen vivir* (living well, not better) emerged to prominence as an alternative vision to sustainable development in the run up to, and during, the Peoples World Conference on Climate Change and Rights of Mother Earth, Bolivia (March-April 2010). The other Jupiter-Neptune alternative social vision carried through from 2000 to this day is the slogan from the World Social Forums

(2000). ‘Another world is possible’ (discussed earlier under the green revolution discourse).

The shadow side of the Jupiter-Neptune complex is evident in the various green economy discourses with the initial critique of neoliberal policies, but then the new vision is very much a continuation of the same or similar neoliberal agendas just under a different name e.g. developmentalism, decoupling, (inclusive) green growth, green resilience, ecological modernisation or the just transition focus on social equity. But the IRP Reports narrowly focus on scenarios and number crunching, and are yet to include social actors in decision-making. Likewise, the green revolution critique of neo-liberalism with the alternate social vision of ‘system change’ still rests on scientific materialism.

3.5.2 CHARACTERISTICS OF ARCHETYPAL COSMOLOGICAL EVIDENT IN THE GREEN TRANSFORMATION DISCOURSE

The diachronic and synchronic patterns presented in the green revolution discourse, together with the additional diachronic pattern of planetary alignments and human experience presented in the green transformation discourse, demonstrate the *contextual* characteristic of archetypes. Circumstantial influence and inflection – socio-political-economic, biographical, evolutionary, ecological, biological, collective, – shape and invoke archetypal manifestations and responses (Tarnas 2012). The *contextual* refers to the actual ground where the archetypal wave particle collapses into a concrete particle of actuality. The context is the matter (the contextual ground, medium and constraints) in which the archetype configures and actualises, and can be seen to be the more non-volitional elements of co-determined complex archetypal manifestations (Tarnas 2012).

3.6 CONCLUSION

The green transformation discourse presents another interpretation of the financial crisis as being linked to climate change and ‘peak oil’ in the process of globalisation. Through this interpretation and linkage, the solutions offered were initially addressing the ‘limits of growth’ through the GNDG proposal for financial regulation, but this soon evaporated and was subsumed by the Green Stimulus and then replaced with the dominant green

growth economy discourse, as demonstrated in the next chapter. This discourse, predominantly in the global north, emphasised green technology, energy efficiency and a just transition for the labour sector, but with little consideration given to how this would improve livelihoods or create decent jobs.

The various global financial crises and periods of economic hardship: 1873-1876 (the Long depression), 1929-1933 (the Great depression), and the recent financial collapse (2008-2011) all coincided with the Saturn-Uranus-Pluto T-square (Tarnas 2010). Archetypal astrology provided examples of both diachronic and synchronic patterns of archetypal planetary alignments in human history, revealing a mysterious correlation patterning that is not causal or deterministic, as found in mechanistic science, but rather co-creating and participatory within an ensouled cosmos. The *contextual* archetypal characteristics – socio-political-economic, biographical, evolutionary, ecological, biological, collective, influence and inflect archetypal manifestations and responses.

The basic assumptions of an outdated cosmology and science lead to the creation of a ‘fringe’ science and thereby exclude real alternative solutions for new technologies, and for economic and social benefits. The green transformation provided a short-lived discourse and was soon subsumed into the dominant green growth discourse – as discussed in the next Chapter.

CHAPTER 4: A CRITICAL ANALYSIS OF THE GREEN GROWTH DISCOURSE

4.1 INTRODUCTION

The green transformation discourse in the previous Chapter began by focusing on the reregulating of the financial sector in the GNDG proposal, but under the green growth discourse this position slowly slipped into the opportunity for expansion of the financial sector to include the services and functions of nature as natural capital.

The dominant narrative informing understandings of the green economy is the discourse on ‘*green growth*’, otherwise termed as a ‘*transition to a green economy*’ (UNEP 2011a), or what the World Bank, Rio+20 and BRICS term ‘*inclusive green growth*’ (Bond 2013). According to UNEP, the overarching goal for governments is sustainable development and the green economy is a ‘growing recognition that achieving sustainability rests almost entirely on getting the economy right’ (UNEP 2011a:16). Efficiency, innovation, competition, new green jobs and the offer of new investment opportunities in new technology and new market mechanisms on the global stage drive this green growth agenda for increased progress and achieving the goal of sustainable development.

This Chapter begins with how this green growth discourse interpreted the global financial crisis and its subsequent response to the crisis to include ‘nature as capital’ i.e. the ‘*financialisation of nature*’. The final section offers a critique of this view and highlights the limitations of this discourse. The green growth discourse is also considered in the light of insights from archetypal cosmology.

4.2 INTERPRETATION OF THE GLOBAL FINANCIAL CRISIS 2007-2011

The United Nations Environment Program interprets the environmental crisis and the multiples related crises of finance, poverty, energy, food and climate as ‘*the misallocation of capital*’ (i.e. market failure), when they state that:

During the last two decades, much capital was poured into property, fossil fuels and structured financial assets with embedded derivatives, but relatively little in comparison was invested in renewable energy, energy efficiency, public transportation, sustainable agriculture, ecosystem and biodiversity protection, and land and water conservation (UNEP 2011a:1-2).

As a result they suggest treating nature as ‘natural capital’. Martinez-Alier and Spangenberg reverse this logic:

Unsustainable development is not a *market failure* to be fixed but a *market system failure*: expecting results from the market that it cannot deliver, like long-term thinking, environmental consciousness and social responsibility (Martinez-Alier & Spangenberg 2012 cited in Bond 2013).

This discourse, as gleaned from the above, focuses less on the causes of the crisis and more on a possible way forward by framing environmental protection in terms of opportunity and reward rather than additional costs (Geels 2013). The current system is seen as inefficient and the World Bank’s Inclusive Green Growth report anticipates new opportunities in green markets for increased and clean growth, and new sources of wealth and opportunities for new innovation (World Bank 2012:3).

4.3 RESPONSE TO THE GLOBAL FINANCIAL CRISIS

This discourse does not focus on limits and scarcity, but rather on opportunities in new market mechanisms and services and green-based consumption patterns. It recasts the relationship between environmentalism and economics (Death 2014), harnessing the financial sector to cover conservation (Tienhaara 2014).

For the UNEP, one of the fundamental bases for its green economy is in the rejection of what they call ‘the myth that there is a dilemma between economic progress and

environmental sustainability' (UNEP 2011a:2-3). For the green growth discourse there are no 'limits to growth' and they argue that economic growth and environmental objectives are compatible. The green growth economy offers investors and speculators an opportunity for future growth, new jobs, new innovative technology and new markets. The policy framework to ensure this green growth includes: a package of policy measures for regulation such as carbon pricing, green tax and phasing out environmentally harmful subsidies; leveraging public investment to stimulate private flows in climate-resilient and low-carbon sectors such as transport, energy, water and agriculture as well as natural capital and bio-capacity such as carbon storage, ecosystem services and increasing land productivity; innovation for both 'high end' and 'local solutions' together with innovative instruments to prevent technology lock-in, lack of competition or crowding out by the private sector, and organisational innovation to facilitate decision-making and implementation of the green growth agenda (OECD 2012:13-14). According to the Organisation for Economic Co-operation and Development (OECD 2012:13-14), governance mechanisms and processes must take into account the needs and interests of the poor as well as establish new structures and institutions to manage global public goods and ecosystem services that transcend nation-state and geographical boundaries and should include multiple-level and sector capacity building to reach development goals.

4.3.1 Financialisation of nature

In this interpretation and discourse on the green economy, it is considered essential to put a price tag on the free services, and more specifically the reproductive capacities, that plants, animals and ecosystems offer to humanity in the struggle for the conservation of biodiversity, ecosystem preservation and regulation of the climate. From this perspective on the green economy, it is necessary to identify the specific functions of ecosystems and biodiversity and assign them a monetary value, evaluate their current status, set a limit after which they will cease to provide services, and concretise in economic terms the cost of their conservation to develop new market mechanisms for each particular environmental service with supporting technologies of measurement and control. The

financialisation of nature is the process that speculative capital uses to take control of nature, marketing nature through certificates, credits, securities, bonds and other speculative instruments to guarantee the greatest profit possible through financial speculation.

For this perspective on the green economy, the instruments of the market are powerful tools for managing the ‘economic invisibility of nature’ and they were thus rejected by Bolivia at the United Nations Conference on Sustainable Development in 2012 (Bolivia paragraph 41 submission to Rio+20 on UNEP 2011a). The EU Emission Trading Scheme carbon market has failed and is another reason to exclude market mechanisms for managing the environment (Bond 2013). The carbon markets were initially set up under the Kyoto Protocol to assist industrialised countries reduce their emissions and assist with financing sustainable development for developing countries, but thus far they have failed in decreasing overall global emissions and have not provided the necessary finance for developing countries. The new market mechanism under the green growth economy discourse includes speculation in the pricing of the reproductive capacity of ecosystems and biodiversity as seen in the study entitled ‘The Economics of Ecosystems and Biodiversity’ (TEEB 2010). The world derivatives market, estimated to be as big as \$1.2 quadrillion and twenty times larger than the global (GDP) economy (Smith 2013), is a ticking time bomb waiting to explode (Von Greyerz 2015) – similar to the housing bubble that burst, causing the global financial crisis of 2007-2011.

According to the Action Group on Erosion, Technology and Concentration (ETC) (ETC 2011), the multiple crises as well as the search for post-fossil fuel societies are driving the agenda for the green economy as nation-states wish to replace the extraction of petroleum with the exploitation of biomass (food and fibre crops, grasses, forest residues, plant oils, algae). Those promoting the green economy envision a post-petroleum future where industrial production (of plastics, chemicals, fuels, drugs, energy) shifts from fossil fuels to biological feed stocks transformed through high-technology bioengineering platforms (ETC 2011). Many governments and large corporations are experimenting with genomics, nanotechnology and synthetic biology to transform biomass into high-value

products. These new market mechanisms will also include controversial and untested technologies where the global governance of these technologies, such as seen in geoengineering and ‘carbon capture and storage’ (ccs), is problematic. The same corporations and institutions that caused the environmental damage will now also control these technologies (ETC 2011).

Most of the terrestrial and aquatic biomass is located across the global south, where peasant farmers, livestock-keepers, fisher people and forest dwellers have their livelihoods. The Action Group on Erosion, Technology and Concentration (ETC 2011) warns that the bio-economy is resulting in a massive corporate power ‘earth and resource grab’; this power includes Big Energy (Exxon, BP, Chevron, Shell, Total); Big Pharma (Roche, Merck); Big Food and Agri-business (Unilever, Cargill, DuPont, Monsanto, Bunge, Procter and Gamble); Big Chemicals (Dow, DuPont, BASF); and the US military.

In the run up to Rio+20, the UNEP Finance Initiative invited the public and private sector, including financial institutions, to sign up to *The Natural Capital Declaration* (2012; see also the Gaborone Natural Capital Declaration 2012), which called upon them to work together to create the conditions necessary to maintain and enhance natural capital as a critical economic, ecological and social asset. The Natural Capital Declaration was launched at the United Nations Convention on Sustainable Development (UNCSD) Rio+20, but was criticised by civil society (Cupula dos Povos 2012). According to Lander (2012:4),

The UNEP report (2011) is a sophisticated effort to demonstrate that it is possible to resolve the problems of the planet’s environmental crises without altering the existing power structures, nor the relations of domination and exploitation. Throughout the report it is argued that the same market mechanisms and scientific and technological patterns, the same logic of sustained growth, can save life on Earth.

The World Bank's (2012) '*inclusive green growth*' has a primary interest in profits for their 'green' investments, which must be seen against the backdrop of their funding dirty energy, e.g. coal plants such as Medupi in South Africa (Bond 2013). One now has to deal with 'neoliberalised nature', i.e. the '*pricing of nature*' based on a pollution-fee system and environmental markets, which means that discredited bankers have now awarded themselves the task of regulating world ecology (Bond 2013). This is in contrast to another option of rather '*valuing our ecosystem*' and imposing pollution bans and fines for ecological degradation (Bond 2013). Various social movements call for reparations for the 'climate debt' or 'ecological debt' (Simms et al. 1999; Quito Statement 2007), and eco-feminists add what they term an 'embodied debt' (Salleh 2010a) caused by transnational corporations and foreign or national governments. But the acceptance of any financial valorisation of nature, i.e. any form of bean counting, is a slippery slope towards accepting a neoliberalised nature (Sullivan 2014). Fioramonti (2014) also questions the hidden agendas (the 'politics of statistics') in attempting to 'value' nature and criticizes the narrow economic approach that sees nature as an investment for yielding financial returns and that attempts to translate the complexity of nature into simple numbers. Another alternative called for by social movements and progressive southern governments is a financial transaction tax (FTT) of 0.05 per cent applied on a global level, which has the potential to capture \$661 billion per year that can be used to fund sustainable development in developing countries (Economic Commission for Latin America and the Caribbean (ECLAC) 2011).

Western corporations, along with a new set of firms and state-owned enterprises from emerging markets, where civil society and accountability systems are weaker, are making the struggles for equity and justice more difficult (Bond 2013). The capacity of existing political systems to establish regulations and restrictions on the free operation of the financial power of corporations is seriously compromised and the political cost is often simply too high (Lander 2012).

4.4 A CRITIQUE OF THE GREEN GROWTH DISCOURSE

'The rights of (nature) mother earth' movement is seen as an alternative to 'the financialisation of nature', while *'the commons'* movement is an attempt to move beyond the state-market dichotomy and monopoly. Additional critique and alternatives come from the advocates of *degrowth* (these concepts were expounded under the green revolution discourse).

4.5 LIMITATIONS OF THIS APPROACH

As stated in the UNEP (2011a:17) report, 'there is a growing recognition that achieving sustainability rests almost entirely on getting the economy right'. The social, political and cultural dimensions of sustainability are neglected and subjugated to the economic dimension in the form of a green economy based on green growth, and the economic dimension is believed to be able to achieve all the other dimensions of sustainability (Wanner 2014). The greening of economic growth continues to sustain the values of homo economicus (the narrow, rational self-interested human actor), whilst objectifying and financialising nature (natural capital) and it thus remains economically reductionist and androcentric. Ecological economics and eco-feminist economics, i.e. measuring natural capital, whether paying embodied/ecological or climate debt (paying a fine) or for new market mechanisms and speculation, are both still economically reductionist.

Green growth overlaps with the green transformation discourse with the focus on new green jobs and energy efficiency (renewal energy), but is predominantly about the financialisation of nature and new speculative market mechanisms and new technology for continued domination and control by the one per cent (i.e. the small powerful and economically dominant global elite). Degrowth focuses on resource limits, but both the green growth and green transformation discourses still frame the discussion with a social-nature divide. The chapters on the new emerging cosmology and archetypal cosmology attempt to shift this frame based on the disenchantment with techno-science (technology and markets) – as located within the modern industrial and scientific materialist

worldview – towards the ecozoic, i.e. ecological sustainability (Berry 1999), and re-enchantment (Tarnas 2012) within the *anima mundi* (ensouled cosmos).

Both integral ecology and archetypal ecology involve an ontological shift. Writing from an archetypal perspective, Tarnas writes (2012:58):

Rather than an objectivist top-down transcendent spiritual/archetypal reality governing human experience or astrological correlations – a cosmic version of the Roman-imperial monotheistic ego running the show, to use Hillmanian (1992) terms – we have the radically pluralistic, multivalent, multicentric, improvisatory, incarnational co-creativity of human life. Thus the Many has ontological value vis-à-vis the One, the manifest vis-à-vis the unmanifest, the creatures vis-à-vis the Creator, the people vis-à-vis the ruling archai, the concrete particulars vis-à-vis the Platonic Idea. And we have the many (individuals, species, forms of life, archetypes and complexes and cycles) making music with each other, in complexly creatively improvisatory form.

As mentioned previously, this complex dialogical and recursive dialectic on the ontological shift has implications for our understanding in economics (i.e. neoliberal, socialist), the polis (i.e. city and or nation-state governance), socio-cultural aspects as well as for the objectification and financialisation of nature as seen in the green growth discourse – all discussed further in Chapter Ten.

4.6 AN ARCHETYPAL COSMOLOGICAL EYE ON THE GREEN GROWTH DISCOURSE

The green growth discourse is analysed here with the corresponding planetary alignments of the time, i.e. through an archetypal astrological eye. This is then further synthesised to demonstrate some of the characteristics of archetypal cosmology.

4.6.1 The green growth discourse through an archetypal astrological eye

4.6.1.1 Jupiter-Saturn opposition (February 2011-March 2012)

The Jupiter-Saturn period (February 2011-March 2012) provides the contrast to the earlier Jupiter-Uranus events and mood. The focus shifted to sluggish economic growth, wealth distribution, cutting wasteful spending and financial regulation. Here we see the Jupiter archetype associated with free market forces, progress, opportunity, growth and development, excess in stark contrast to the Saturnian aspects of regulation, laws, negative growth, controlling, structure and ordering. The pragmatic philosophy of the Jupiter-Saturn complex became evident in the discussions on implementing austerity or creating growth, spending or cutting back (Le Grice et al. 2012).

In 2008 the GNDG Report (2008) began with suggestions for regulating (Saturn-Pluto) the financial sector; this was the initial response to the global financial crisis (as discussed in the section on the green transformation discourse) and then in 2009 the tone changed with the release of the *Global Green New Deal Report* (UNEP 2009) to one of greater optimism about opportunities for investment (Jupiter-Neptune) in green sectors. By October 2010 we saw the Jupiter-Uranus entry with the release of *The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature Report* (TEEB 2010), which initiated the financialisation of ecosystem services for a huge speculative market. By 2011 the Jupiter-Uranus and Jupiter-Saturn influence could be further seen with the *Towards a Green Economy Report* (UNEP 2011a), the Organisation for Economic Co-operation and Development report *Towards Green Growth* (OECD 2011), and later in 2012 at the Rio+20 earth summit the World Bank and nation-states were talking about the green growth discourse to include natural capital accounting – the shadow of the Jupiter archetype associated with greed, exploitation, expansion that was now extended to include the financialisation of nature, new markets, new technology (Uranus), inclusive green growth, managing the economic (Saturn) invisibility of nature (Pluto) and controlled by Big Energy (Exxon, BP, Chevron, Shell, Total); Big Pharma (Roche, Merck); Big Food and Agri-business (Unilever, Cargill, DuPont, Monsanto,

Bunge, Procter and Gamble); Big Chemicals (Dow, DuPont, BASF); and the US military (Jupiter-Saturn).

Degrowth as expressed in the green revolution discourse is another example of how Saturn is inflected in the discourse. Another example of the Jupiter-Saturn archetype comes from the just transition discourse and the concept of decoupling. The title of UNEP's first IRP Report (2011b) *Decoupling Natural Resource use and Environmental Impacts from Economic Growth* shows the continued association with growth, progress and development (Jupiter) linked to the more restrictive rate of resource usage in the context of depleted resources and carbon constraints (Saturn). The overarching global transit of Uranus-Pluto (2007-2020) also continues to interact with Jupiter-Saturn in a complex way in this discourse with its emphasis on new technology, new financial markets, and investments in (green) infrastructure with a particular shift of focus to urban slums in developing country contexts, e.g. the second IRP report was titled *City-Level Decoupling: Urban Resource Flows and the Governance of Infrastructure Transitions* (Swilling et al. 2013).

4.6.2 CHARACTERISTICS OF ARCHETYPAL COSMOLOGICAL EVIDENT IN THE GREEN GROWTH DISCOURSE

Archetypes have plural meanings and can be said to be *multivalent* (Tarnas 2012). This can be seen in the multiple ways in which Jupiter was inflected above when it is in complex interaction and alignment with other planets. The Jupiter archetype can be seen as expansive, magnanimous, successful, abundant, optimistic, or negatively as excess, extravagance, inflation, self-indulgence and overconfidence (Tarnas 2011). The *multivalence* of archetypes is seen in both the multiple nuanced meanings of Jupiter above as well as in the making of the invisible (the reproductive capacities and free services provided by ecosystems) visible. An additional example on the *multivalent* characteristic of archetypes would be the many ways in which the Uranus-Pluto complex manifested in the 1960s as well as under the current alignment of 2007-2020, including the various meanings and discourses on the green economy mentioned in this study.

4.7 CONCLUSION

This Chapter highlighted the green growth discourse and its interpretation of the global financial crisis as a market failure. The response was to treat nature as capital. This financialisation of nature's reproductive capacities and ecosystem services produced new speculative market mechanisms and new technologies to extend the domination and control of humans over nature and is in stark contrast to the rights of mother earth (nature), the degrowth discourse, and the commons movement (as outlined in the chapter on the green revolution discourse). This green growth discourse entails economic reductionism with an over-emphasis on and fascination with new market instruments (i.e. the financialisation of nature) and technology as an attempt to address the multiple crises that are symptomatic of the modern industrial and scientific materialist worldview.

Archetypal cosmology provided additional analysis and explanation as to the *multivalent* meanings evident in the various green economy discourses. The example from the Jupiter archetype illustrated the *multivalence* when inflected either with Saturn, Uranus or Neptune in this green growth discourse. Both integral ecology and archetypal cosmology involve an ontological shift, with implications for the objectification and financialisation of nature as evidenced in the green growth discourse.

The following Chapter on green resilience has overlapping elements with this green growth and various other discourses on the green economy.

CHAPTER 5: A CRITICAL ANALYSIS OF THE GREEN RESILIENCE DISCOURSE

5.1 INTRODUCTION

The resilience discourse is in search of alternatives to address the multiple crises of resource depletion, climate change, environmental degradation, and poverty. It encompasses a wide range of plans, strategies and programmes to build resilient communities, sectors (energy, food, environment, buildings) and cities, whilst still remaining within the overarching developmental and neoliberal growth framework.

Various agendas and policies on green growth, development, climate change and sustainability interconnect to inform the resilience discourse. The sections below will elaborate on only a few of these interconnections, which are by no means exhaustive. These include: i) national strategy plans ii) from adaptation and disaster risk reduction plans to loss and damage iii) climate resilient cities; iv) climate-smart agriculture; v) eco-protectionism in trade; and vi) new conditionality in aid and debt.

5.2 INTERPRETATION OF THE FINANCIAL CRISIS

Some of the programmes and initiatives in the green resilience discourse described below offer a critique of the global economic system and saw the financial crisis as an opportunity to bring about transformation, but in many cases these were more reformist action plans in response to the multiple global crises.

5.3 NATIONAL STRATEGY PLANS

Resilient strategies have been incorporated into national development and strategy plans as evidenced in Ethiopia's *Climate Resilient Green Economy Strategy* (Federal Democratic Republic of Ethiopia 2011) developed under the late President Meles Zenawi and were based on the following four pillars:

- 1) Improving incomes for farmers and food security by increasing livestock and crop production whilst simultaneously reducing emissions;
- 2) Ecosystem services and carbon sinks of forests protected and re-established;
- 3) Renewable energy expansion for domestic and regional markets;
- 4) Such expansion would include the transport, industrial and building sectors to embrace modern energy-efficient technologies.

This vision envisaged Ethiopian national greenhouse gas abatement in exchange for climate finance, i.e. industrialised countries do not reduce their emissions domestically but rather offset their carbon emissions in developing countries (e.g. Ethiopia), and in exchange climate finance is transferred either via carbon markets or the Green Climate Fund to fund investment in developing countries (e.g. Ethiopia). Similarly, this can be seen in Rwanda's national new *Green Growth and Climate Resilience Strategy* (Republic of Rwanda 2011) with the key objectives of achieving energy security, food security and social protection.

On 30 January 2012 (shortly after the Durban Climate Conference of 2011 and just before the 2012 Rio+20 Earth Summit) the two co-chairs of the United Nations Secretary-General's High-level Panel on Global Sustainability, South African President Jacob Zuma and then Finnish President Tarja Hanonen, compiled the report entitled *Resilient People, Resilient Planet: A Future Worth Choosing* (UN 2012). The report placed a strong emphasis on what governments and their institutions were expected to do to achieve resilience; this included: disaster risk reduction (DRR); establishing safety nets and adaptation programmes; promoting green growth; environmental and social impact pricing, which also included natural ecosystem services accounting; and improvements in coherence, governance and accountability at sub-national, national and international levels. From the perspective of this high-level panel the global financial crisis was viewed as a chance to critique global economic governance as well as an opportunity to bring about substantial reform (UN 2012).

The African Union in 2014 reiterated similar calls by emphasising "the need to strengthen the capacity of African countries to formulate and implement inclusive green

economy policies in order to foster and accelerate the achievement of a climate resilient pathway through structural transformation” (AU 2014).

At the fifteenth session of the African Ministerial Conference on the Environment (AMCEN) in Cairo in 2015, African ministers called for adaptation-mitigation parity in the Paris 2015 climate agreement to keep the global temperature rise below 1.5°C; Achim Steiner, UN Under-Secretary-General and Executive Director of the UNEP, added

The only insurance against climate change impacts is ambitious global mitigation action in the long-run, combined with large-scale, rapidly increasing and predictable funding for adaptation. Investment in building resilience must continue to be a top funding priority, including as an integral part of national development planning (UNEP 2015).

This discourse on resilience is also linked to the discourse on ‘inclusive green growth’ (World Bank terminology from their 2012 report) and ‘natural capital’, i.e. financialisation of nature (UNEP terminology), as explained in the previous chapter on green growth. Speaking at the same fifteenth session AMCEN President, Khaled Fahmy, said,

We need to step up regional and national efforts and to consider natural capital valuation in decision-making in order to harness the full potential of Africa’s rich endowments and to employ the competitive advantage offered as an engine for inclusive economic growth (UNEP 2015).

The green resilience discourse, whilst advocating for transformation, still sees this as taking place within the existing neoliberal framework. The influence of the World Bank and the UNEP in regional bodies such as the African Union (AU) and the African Ministerial Conference on the Environment (AMCEN) remains problematic.

Additional insights into the green resilience discourse are found in national programmes related to climate change, discussed below.

5.4 FROM ADAPTATION and DISASTER RISK REDUCTION PLANS to THE MECHANISM ON LOSS AND DAMAGE

Efforts to increase resilience in communities affected by climate change are seen in numerous programmes. The international (UNFCCC) climate negotiations are linked to national work plans, National Adaptation Plans of Action (NAPAs), submitted by least developed countries (LDCs) to the UNFCCC. In addition, there is the Global Adaptation Fund to assist developing countries with their adaptation plans. The Sendai Framework for Disaster Risk Reduction (DRR) fifteen-year plan was drawn up in March 2015 to address the growing frequency and intensity of climatic shocks experienced by developing nations.

Commenting on these two programmes, Singh (2015) sees a substantial overlap between the United Nations Framework Convention on Climate Change (UNFCCC) dealing with adaptation and interventions by the United Nations Office for Disaster Risk Reduction (UNISDR) and the consequent need to harmonise efforts and resources.

Loss and damage refers to the adverse effects from climate change that can no longer be avoided either through mitigation or adaptation efforts such as national adaptation plans (Hoffmaister & Stabinsky 2012). The Mechanism for Loss and Damage was established in 2013 in Warsaw under the UNFCCC climate change negotiations (COP19).

The above-mentioned national adaptation plans (NAPAs), the disaster risk reduction (DRR) plans and the Mechanism for Loss and Damage need to be understood in terms of the agreed principles and provisions of the climate treaty under the UNFCCC, the Kyoto Protocol (KP) and its Convention, i.e. Long-Term Co-operative Action (LCA). During the Bali (2007) round of climate negotiations a set of principles and provisions was agreed upon. These principles included: the recognition of common but differentiated responsibilities and respective capabilities (CBDR), equity and historical responsibility

for greenhouse gas emissions. The agreed provisions included the agreement of transfers of finance and technology from developed to developing countries and capacity building. These principles and provisions have been a continuous point of division and disagreement between developed and developing countries in all UN meetings (Rio+20 Earth Summit in 2012, the Convention on Biodiversity, international climate meetings ahead of Paris 2015, and the New Sustainable Development Goal agenda for 2015). Several research and academic groups have modelled and done the number crunching on the equitable sharing of the remaining carbon budget, but perhaps the work that has captured both the principles and provisions in a comprehensive manner is that of EcoEquity and the Stockholm Environment Institute (Baer, Athanasiou, Kartha & Kemp-Benedict 2014).

From the above example on the green resilience discourse, tensions observed include the actually attaining resilience for those most affected by climate change; for this reason there is a need for more radical alternatives suggested under the green revolution discourse and a re-imagining of a broader participatory earth democracy that includes the whole earth community. The bottom line of the decision-making is often economic and it is the elite both in developed and developing countries who make the decisions and benefit from these decisions. An earth democracy orientation considers the whole earth community of life (ecosystems, humans, future generations) as having value and voice. The apartheid of humans dominating, exploiting and objectifying nature needs to be countered with relational restoration and balance. Justice, equity and participation must include both the socially marginalised as well as include the broader earth community.

5.5 CLIMATE-RESILIENT CITIES

Additional insights into the resilience discourse come from urban programmes. Climate-resilient cities implement various interventions. Examples include the work of i) the African Centre for Cities (ACC), which has a focus on informality; ii) the International Council for Local Environmental Initiatives (ICLEI), with a focus on local governments and sustainability; and iii) SMART high-tech versus an adaptive cities agenda.

i) The African Centre for Cities (ACC) intervention focuses on climate-compatible development in African informal (slum) cities. This project represents the intersection between *development* and *climate change mitigation, adaptation and resilience*. It addresses inequality, stimulates economic growth and investment, and provides access to infrastructure, services and employment. This project adopts a bottom-up community-based multi-scale approach. It also includes long-term goals of minimising waste and pollution, reducing resource depletion and avoiding environmental degradation. Vulnerability, risks, opportunities, strategies and plans are part of this project (Taylor & Cameron 2014: 6-9).

This is one of the very few projects that include the social and environmental dimensions in such an integrated manner in the urban (slum) space. Projects that lack this integrated element include micro-finance for small entrepreneurs, and government projects that are often top-down and sector-specific (health, education, energy, housing, transport, housing, water and sanitation). The ACC project, however, still suggests a growth and development orientation in line with neoliberal thinking. The focus seems more on how to bring the urban slum into the neoliberal system and less on eco-sufficiency or building the commons independent of the state market as found in the green revolution discourse. This project suggests more of an ‘etic’ (from the outside) approach as seen in the terminology used. Etic and emic (from the inside) approaches yield different results and also use different concepts and jargon. This project includes carbon markets (CDM clean development mechanism) in assessing mitigation co-benefits for financing (Taylor & Cameron 2014:15), but these have already shown that they cannot deliver the money nor do they reduce global emissions (Bond et al. 2012; Kollmuss et al. 2015).

ii) Integrated solutions for resilient cities – this is the focus of the ICLEI (Local Governments for Sustainability). This is an international association of local and metropolitan governments working on sustainable development for resilient cities that brings together mayors and local government representatives to address broad-based issues on and solutions to sustainability (www.iclei.org). This initiative seeks to vertically

integrate public governance together with the sector-wide integration. In the African context this initiative has USAID and the EU as funding partners and ‘good governance’ could thus also be the pretext for a coercive neoliberal green growth economy agenda. Good governance is equated with a neoliberal green growth economy agenda. Graham Hancock’s book *Lords of Poverty* (1989) revealed the power, prestige and corruption of international development aid and the betrayal of public trust in donor funding. The development industry is still the same today; only the players and the terminology have changed.

iii) The private sector (IBM, CISCO, Siemens, Alstrom, Phillips) top-down SMART city agenda is promoting a high-tech IT solution to building resilient cities, e.g. Masdar, Songdo. This approach by the private sector aimed at mega infrastructure and IT is an ecological modernisation or business-as-usual approach (Pieterse 2014; Swilling 2014a). In contrast, Pieterse (2014) and Swilling (2014a) advocate for an adaptive city: smart grids, full access, interest in low-tech to guarantee affordability and access, prioritise public infrastructure and localised slum economic and ecosystem renewal.

These three urban interventions above vary in their approach to and solutions for the city, but the common thread is their goal of attaining resilient, sustainable cities. They all include the notions of development and green growth; a prominent role for green technology (infrastructure scales differ, though); and a pivotal role for government (they differ on local versus national). The value placed on including ‘previously excluded communities’ in decision-making also differs in the various approaches.

5.6 CLIMATE-SMART AGRICULTURE

The green resilience discourse is also very prevalent when considering future food production in an ever-increasingly warming planet. Predictions for global temperature increase for the end of this century range between 4 to 6 degrees Celsius (Africa 6 to 8 degrees Celsius). This will cause increased water stress and a significant drop in food production (IPCC 2013). Agricultural-based economies and smallholder farmers will be

hit the hardest and building climate-resilient agricultural systems is underway. The global smallholder peasant farmer movement, La Via Campesina (LVC), advocates for ecological agriculture for food security and climate resilience (Hoffmaister & Stabinsky 2012; La Via Campesina website). This is in contrast to the World Bank and Food and Agriculture Organisation (FAO), which is promoting carbon offset credits in what they call ‘climate-SMART agriculture’ (FAO 2010; World Bank 2010). The thinking is that as farmers use agricultural practices such as composting, they maximise the carbon stored (sequestered) in the soil. These soil carbon credits can be traded on the global carbon market with companies that wish to offset their greenhouse gas emissions. The World Bank’s BioCarbon Fund and Kenya Agriculture Project was a pilot project conducted in Kenya with 60 000 farmers with poor results, according to Sharma (2011). The project saw low returns for African farmers (US\$1 per farmer per year); it incurred high transaction costs (half of expected revenues went to international consultants and project developers); and it had a high degree of uncertainty regarding environmental benefits (60% of soil carbon sequestered was discounted due to uncertainty) (Sharma 2011). Climate-smart agriculture sees the government placed in the role of ‘broker of the deal’ and then ‘enforcer of the project’. The global smallholder peasant farmer movement (LVC) sees the market mechanism as a false solution both to addressing emissions reductions and to providing food security and sovereignty.

5.7 ECO-PROTECTIONISM AND NEW CONDITIONALITIES

Trade is another arena where the green resilience discourse can be identified. Developing countries have a concern that the green economy agenda could be a new form of eco-protectionism which could possibly mean they could lose any sector or market comparative advantage they may have had as well as new forms of regulation and governance (Death 2014; Khor 2011). This new form of eco-protectionism would see higher environmental standards placed on their products and thus prevent them from entering developed country domestic markets (Death 2014; Khor 2011). An additional implication of the green economy’s eco-tariffs on exports is the erosion of the ‘principle of common but differentiated responsibilities’, which would undermine existing

commitments to poverty alleviation and equity issues (Khor 2011). There are additional concerns around the imposition of new conditions for developing countries' debt relief and upon their receiving aid (Khor 2011). As many developing countries are in bilateral agreements with developed countries, the coercion to agree to a green economy agenda as conditional to receiving aid or conducting trade is very real. That which developed countries cannot obtain at the multilateral level, they will obtain through coercion and manipulation at the bilateral level.

5.8 LIMITATIONS OF THIS APPROACH

The green resilience discourse is multifaceted and covers various programmes and plans. As such, the term 'resilience' is used interchangeably with the discourses on green growth and developmentalism. The term 'resilience' thus drives multiple agendas to achieve desired political outcomes. The status quo is maintained with the poor and most vulnerable (ecosystems, biodiversity, humans) remaining excluded and exploited. The term 'resilience' loses meaning and relevance in attempts to effect real change or to actually create resilient earth communities. Within the new cosmology perspective, resilience can be seen in the emergence of archetypal earth communities. This new punctuated evolutionary jump within the system is the creative impulse of new habit formation that will become the new norm.

5.9 AN ARCHETYPAL COSMOLOGICAL EYE ON THE GREEN RESILIENCE DISCOURSE

The green resilience discourse is analysed here with the corresponding planetary alignments of the time, i.e. through an archetypal astrological eye. This is then further synthesised to demonstrate some of the characteristics of archetypal cosmology.

5.9.1 The green resilience discourse through an archetypal astrological eye

5.9.1.1 Uranus-Pluto square (2007-2020) and Saturn-Uranus opposition (2007-2012)

The various different themes in the green resilience discourse all carry the Uranus-Pluto archetypal complex – strong links to climate change (air, oxygen, carbon) and atmospheric carbon budget sharing (Uranus); biodynamic and agro-ecological practices versus industrial farming; a focus on and shift to cities in developing countries; new renewable technologies and infrastructures (Uranus-Pluto) – whilst many resilient approaches continue within the neoliberal framework of the old economic paradigm (Saturn).

5.9.2 ARCHETYPAL COSMOLOGICAL CHARACTERISTICS EVIDENT IN THE GREEN RESILIENCE DISCOURSE

The multiple ways that the archetypes are expressed simultaneously in this green resilience discourse is another example of the *multivalent* characteristic of archetypes.

5.10 CONCLUSION

The green resilience discourse encompasses a broad range of strategies, programmes and plans that are a more reactionary response to the recent global financial and broader environmental crises compared to the green revolution or green transformation responses. The term ‘resilience’ is also utilised in different ways as seen in national strategy plans, adaptation and disaster risk plans, various approaches to climate-resilient cities, climate-resilient agriculture programmes and international trade. The limitation of this approach is that green resilience can mean almost anything and serves multiple political agendas without effecting meaningful change and creating resilient earth communities where the most vulnerable (ecosystems, impoverished communities) actually become resilient. Green resilience can mean a business-as-usual approach, green growth or even developmentalism (discussed in more detail in the following Chapter). Archetypal cosmology highlighted the *multivalent* characteristic evidenced in the green resilience discourse. The new cosmology perspective shows how the emergence of archetypal earth communities can be considered as resilient.

CHAPTER 6: A CRITICAL ANALYSIS OF THE DISCOURSE ON DEVELOPMENTALISM

6.1 INTRODUCTION

The idea of the ‘developmental state’ returned as the central factor in the global discussion about developmental policy and strategy around 2002 and intensified during the global financial crisis of 2007-2011 (Swilling & Annecke 2012). The failure of both the global financial system as well as the history of imposing neoliberal policies on developing countries opened the door for actors in developing countries to both critique neoliberal policy as well as establish new paths of development (Bressier-Pereira 2006; Swilling & Annecke 2012; Zalk 2014).

The green economy discourse has been assimilated into a new green industrial discourse as can be seen from the resolution taken by the African Union when members emphasised ‘the huge potential that the inclusive green economy presents for accelerating and sustaining Africa’s industrialisation and overall structural transformation’ (2014:9) as well as the new collective accords or *social compacts* being proposed by the Economic Commission for Latin America and the Caribbean report (ECLAC 2014).

This Chapter highlights the ‘*developmentalism*’ discourse of the twenty-first century as *policy, process, strategy and institution with an assimilated green economy*. This is analysed around the role of the state, the fiscal arrangements suggested, the emphasis placed on structural transformation, infrastructure development, innovative technologies, equity, social compacts and industrial policy, and the position on growth, extractives and the environment. New developmentalism and the developmental state are then critiqued as representing a shift from the Washington consensus to the ‘commodity consensus’ (Svampa 2013) that entails the continuation of the neoliberal extractives and progressive neo-extractives agenda (Acosta 2013; Brand 2014; Guydnas 2013a; Lander 2013; Svampa 2013b), including proposed ‘alternatives to development’ (Guydnas 2013b). The

final section highlights the limitations of this approach and includes an archetypal analysis.

6.2 THE GREEN ECONOMY DISCOURSE WITHIN NEW DEVELOPMENTALISM AND THE DEVELOPMENTAL STATE

The main ideas of developmentalism revolve around improving the productive structure of a nation, with an active economic policy where some economic activities are seen as more conducive to growth and where the goal of developmentalism has been industrialisation and diversification in order to shift beyond dependence on agriculture and raw materials (Reinert 2010). However, this return to the state in the wake of the global financial crisis was undertaken in order to bail out the banks, promote public-private partnerships and for the state to be developmental for private capital and private finance (Fine 2011). Furthermore, the state in the USA and Europe has increased austerity and the military to reinforce the dominance of the market (Van Appeldoorn et al. 2012).

Similar to the perspective of green transformation, new developmentalism views the state as institution and strategy for development and growth of a green economy. The key defining elements of new developmentalism include: maintaining macroeconomic stability by keeping inflation under control; having moderate interest rates and an exchange rate that assures foreign accounts some measure of stability; maintaining national security and autonomy through managing the exchange rate as being the most strategic plan; promoting domestic savings, investments and innovation; tolerating moderate debt levels; ensuring domestic savings with the goal of investing in national infrastructure; building a strong public sector that does not crowd into a strong private sector where stronger firms have capacity and a leading edge to compete globally, i.e. keeps strong firms open to compete globally (Bressier-Pereira 2006). New developmentalism aims to strengthen both state institutions and the market using a national development strategy or social contract (ECLAC 2014) by promoting a strategic industrial policy (Bressier-Pereira 2006; Zalk 2014) that addresses unemployment levels

and develops national industries with a value-added focus. Swilling and Annecke (2012:87) conceptualise what they call the '*innovative developmental state* ...which invests in sustainability-oriented innovations as an explicit way to drive job-creating growth'. Trade, industrial and technology policy in promoting technological learning in the productive sector are highly valued (Chang 2010). Similar to the green growth perspective, new developmentalism sees economic growth as the enabler of progress with the environment in the service of human or social development.

The vision of, and discourse on, developmentalism from developing countries' perspectives is evident from the resolution taken by the African Union, when it called on member states to 'establish mechanisms to enable the transitioning to green economy development paths' (AU 2014:9).

The AU saw this as having many positive results: new finances from both the public and private sector would be released; social inequalities would be addressed; environmental and climate risks that posed a threat to Africa's economic growth would be reduced; wealth would be created and youth employment stimulated; Africa's industrial development would take place through cleaner technologies; resilience would be built up (AU 2014:9).

This vision of new developmentalism from developing countries is in stark contrast to the vision espoused by the German Federal Minister for the Environment:

The lynch pin of a model of sustainable development has to be a 'third industrial revolution', at the centre of which is energy and resource efficiency ... If China becomes the 'world's workbench', India casts itself as the 'global service provider', Russia develops into the 'world's filling pump', and Brazil as the 'raw materials warehouse' and 'global farmer' provides Asia's industrial and service companies with iron ore, copper, nickel and soybeans; Germany should then assert and strengthen its position in the global division of labor as the responsible energy-efficient and environmental technician (cited in Salleh 2010a:2-3).

Commenting on this crude position on ecological modernisation, which is very popular among government bureaucrats and establishment academics, Salleh (2010a:3) states that “Germany as the responsible energy-efficient technician would actually be living on credit, buoyed up by an invisible ecological debt to the global South and an invisible embodied debt to women as reproductive labour worldwide”.

The developmental state may in the longer term be the vehicle for radical reform, but equally it may also be the downfall of more progressive policies. The deciding factor will be who gets to define the developmental state and how (Fine 2011).

6.3 A CRITIQUE OF DEVELOPMENTALISM DISCOURSE

At the turn of the 21st-century, Latin American governments began to turn away from neoliberal policies and define themselves as left-wing or progressive. According to Gudynas (2013a), these progressive governments varied immensely as to what they did from installing tight controls over currency exchange and commodity controls in Venezuela to adopting more orthodox economic policies in Uruguay and Brazil. Venezuela, Bolivia and Ecuador focused on reining in capital and developing an increased role for the state, and proposed building ‘twenty-first-century socialism’. Argentina had a ‘national-popular’ government, which called for growth and exports and an increased role for the state, which was to be seen as being in the service of the people. For Brazil (*as well as South Africa, China and India*) it was the more moderate ‘new developmentalism’ with an increased state role, but they were careful not to disrupt the workings of the market. These heterodox positions were critical of development, but none of them questioned the rationality of development as growth, the role of exports or investment, or the exploitation of nature, or intercultural issues (Gudynas 2013a:18,24; italics added).

6.3.1 Extractivism and neo-extractivism

Excessive exploitation of exhaustible non-renewable natural resources is termed *extractivism* (Acosta 2013; Guydnas 2013a). Previously there were calls to abandon extractivism and focus on national industrialisation, but now progressive governments are promoting growth and development, and finding ways to redistribute the surplus within their social welfare programmes or making cash payment compensation for what Guydnas calls ‘*neo-extractivism*’ (Gudynas 2013a).

Not only did neoliberal extractivism have negative impacts economically, socially and environmentally, but this new trend in neo-extractivism has also had negative impacts.

6.3.1.1 Economic problems associated with neo-extractivism

According to Acosta (2013), some of these economic problems include: i) economies relying on raw materials for exports face volatility of prices on world markets as well as recurrent balance of payment problems; ii) fiscal deficits as well as capital flight; iii) as the value of natural resource exports increases, the non-resource sector values decline (Dutch disease); iv) more goods are imported and consumed and the terms of trade decline and no longer favour the domestic market or nation state but rather increase the advantage of transnational corporations to affect the balance of power; v) states lose control over their territories as transnational institutions fulfil social functions of building schools and hospitals and the state operates as a police state; vi) local production chains remain disconnected to export enclaves; vii) the extractive sectors do not employ large numbers of people; viii) increased inequalities; ix) political structures and the elite take advantage of rent seeking and clientele-like behaviour is encouraged; x) there is a failure to diversify the economy; xi) “perverse subsidies” in the form of sweetheart deals for cheaper energy, free or cheap water, and often transport infrastructure are granted to the extractive industries (Gudynas 2013a).

6.3.1.2 Social and environmental problems associated with neo-extractivism

In addition, social and environmental problems include: i) the dispossession of land and resources; ii) the reversal of land reform programmes; iii) the loss of food sovereignty

and self-sufficiency; iv) the loss of biodiversity and overall environmental degradation; v) a departure from participatory decision-making and legal consultation processes; vi) social and environmental legislation and standards are downgraded to attract investments; vi) an increase in conflicts;² vii) global and regional asymmetric relationships are reproduced; viii) the financialisation of nature which does not recognise the intrinsic, cultural, spiritual and ecosystem values within nature (Svampa 2013b).

6.3.1.3 How elites contribute to this problem of neo-extractivism

According to Brand (2014:1), elites of the resource-rich countries also find extractives attractive and continue to deepen this model for the following reasons: i) the high price obtained from mineral, fossil, forest and agrarian commodities; ii) the high demand from the ‘traditional’ capitalist centres and countries such as China; iii) their political strategies to maintain the flow of resources; iv) the increasing investment in elements of nature (such as emissions and carbon market trading, and infrastructure for the mobilisation of natural resources) as a result of the financial crisis and over-accumulated capital; v) the intensification of the imperial mode of living in the global north (in principle implying unlimited access to cheap resources and labour from other countries via the world market); vi) the increase of the imperial mode of living in the global south, i.e. elites and middle classes; vii) a narrow-minded and powerfully-backed assumption and strategy that economic growth might be the only viable solution out of the crisis and for ‘development’; viii) and alternative voices are silenced.

6.3.1.4 Governance problems associated with neo-extractivism

Latin American states continue to be monocultural colonial states in heterogeneous and multicultural societies (Lander 2013). Progressive states emphasise national sovereignty, democratisation and the redistribution of wealth, whereas decolonial logic prioritises multiculturalism, diversity, indigenous territorial sovereignty, the rejection of the developmental state and extractivism, and upholds the rights of Mother Earth (Lander 2013).

² The Environmental Justice Organisations, Liabilities and Trade (EJOLT) project has produced an atlas mapping the conflicts between local communities and transnational corporations around extractivist activities globally (<http://www.ejolt.org/maps/>).

6.3.2 Alternatives to development

Over the last decade in Latin America, Asia and Africa we have moved from the Washington Consensus with its focus on finance to the ‘commodity consensus’ characterised by large-scale export of primary products, according to Argentinean Maristella Svampa (2013b). New forms of dependence and domination are being created as can be seen by initiatives such as the Initiative for the Integration of the Regional Infrastructure of South America (IIRSA) as it assists in the extraction and export of products (Svampa 2013) and the Programme for Infrastructure Development in Africa (PIDA) led by South African President Zuma, where the African Development Bank is the executing agency. Even the shift to more south-south cooperation via initiatives such as BRICS (Brazil, Russia, India, China, South Africa) and the New Development Bank (NDB) for infrastructure development sees the BRICS nations remain co-dependent sub-imperialists serving eco-financial imperialists (Bond 2014).

Development as understood by international agencies is reductive and quantitative, whereas livelihood as understood by grassroots communities is holistic and qualitative – grounded in a meta-industrial labour relationship with nature, according to material eco-feminist Ariel Salleh (2010a: 6). The fracture is legitimated by the ideological either/or of humanity versus nature; all modernist discourses are marked by this dualism, whereas in strictly materialist terms humans are actually nature in embodied form (2010a: 6). This deconstructive analysis reveals why the rigid subject/object logic of productivism - whether capitalist or socialist - cannot provide a coherent ecocentric response to climate change (Salleh 2010a:7).

6.3.3 Transition to post-extractivism

A transition to *post-extractivism* foresees a sustainable economy based on solar energy and renewable materials facilitated via quotas and taxes on exports of raw materials (Gudynas 2013a, 2013b). In order to prevent further global warming, biodiversity loss and increased poverty, the remaining oil deposits will need to be left underground and

discussions on ‘alternatives to development’ will need to be regionally integrated to build autonomy (Guynas 2013b). These top-down policy approaches to resist international enclosure are complemented by bottom-up approaches being advanced by social movements and communities, such as *buen vivir*, rights of nature, the commons/territories and community ethos (all elaborated on in the chapter on the green revolution). The ‘economy of life’ is central to the work of these social movements as they create new relationships among communities to disrupt and present an alternative to the prevailing capitalist logic (Svampa 2013b).

To address the ecological and financial crisis, new historical agents need to be included in the conversation. A new social contract must address issues of land, water, energy, food and air sovereignty; non-renewal fossil fuels must be kept underground; communities must control production; northern over-consumption patterns must be halted; indigenous rights and reparations for ecological and climate debts to the south must be paid (Cupula dos Povos 2012; Salleh 2010; Quito Statement 2007). A new social contract must also include a new society-nature relationship as defined by the rights of nature in the chapter on the green revolution.

In addition, Gudynas (2013b:33,165-188) identifies some additional points for a transition to post-extractivism.

1. Economic and environmental components – substantial and efficient social and environmental controls need to be placed on extractive industries; price correction of the products to factor in social and environmental costs; they should be primarily to meet the needs of the continent and not just for international export.
2. Reconfiguring trade in natural resources – regional harmony in price correction is important and will result in changing trade patterns, with raw materials and by-products being more expensive; this will result in a drop in exports and dependence on primary commodities; lower volume at higher unit values; state will incur real savings through not having to mop up social and environmental

damage; diversification for job creation (extractivism is not a high employment sector); comprehensive tax reform will increase state revenue.

3. The transition economy – shifting perverse state subsidies into legitimate subsidies, e.g. for organic farming; for neo-extractivism where the state is collecting, surpluses should include an appropriate level of royalties; tax equity and taxing windfall profits to avoid speculation; as extractive sector shrinks, the farming and manufacturing sector must diversify and expand.
4. Markets and capital – the financialised economy must be reined in; new regional financial architecture such as Bank of the South to finance socially and environmentally sustainable projects; recognise and make visible the various dimensions of markets and diverse economies, e.g. barter and reciprocity markets; recognise other values such as cultural, aesthetic, religious, ecological, making it impossible to buy and sell nature in the market as natural capital.
5. Policies, regulation and the state – both the market and the state need to be regulated and anchored in civil society; includes decentralisation; extractivism caused fragmentation and states started to lose their territories and capacity to provide services; thus the enclaves must be joined together in national planning and service provision.
6. Quality of life and social policies – creating other sources of funding to address poverty reduction plans beyond economic compensation and cash payments from extractives; more substantive measures such as employment and education.
7. Autonomous regionalism and decoupling from globalisation – food and energy sovereignty are most important.
8. Dematerialisation and austerity – the goal of growth and development should be replaced with *buen vivir*.

For this transition to occur, one needs to be rooted in strong, place-based communities and the concept of citizenship must be reconfigured to include a territorial and environmental perspective (Guydnas 2013b).

6.4 LIMITATIONS OF THIS APPROACH

The post-extractivist proposal from the global south serves as a critique of the current agenda and discourse on developmentalism and progressive neo-extractivist. The alternatives to development policy prescriptions have as their strength the specific link with grassroots social movements and their stance against globalisation. The Latin America link of top-down policy on post-extractivism and bottom-up social movements concepts such as *buen vivir* and rights of mother earth works well in the Latin American context. Although *buen vivir* is non-essentialist, other contexts will still need to find their dynamic equivalents to *buen vivir*. For example, in Africa concepts such as *ubuntu* may yield a more contextualised response. *Ubuntu* means ‘I am because we are’ and this ‘we’ can be understood not only in a social sense, but to include the entire relational bio-community of life. Modern industrial societies, though they may stand in solidarity with these ideas, cannot relate to these concepts in a meaningful way. The idea of economic growth and progress and development are still rooted in modernist thought (Escobar 1992; Tarnas 2012).

An integral ecological approach and archetypal cosmology (Chapters Eight and Nine) also serve as an additional critique and corrective to developmentalism. The mechanistic worldview left a vacuum regarding the meaning and purpose of the cosmos. With science in control, humanity began to find meaning in improving its own living conditions by accumulating wealth and working for social and economic progress – the pursuit of economic ‘growth’. The emerging new cosmology brings about a shift in teleology. Our identity no longer lies in the nation-state (or race, gender, class, religion) or in the notion of homo economicus (economic man) as found in scientific materialism. An integral ecology, as found in the new emerging cosmology, shifts us towards the concept of an

integral ecological person in communion with the broader earth community of equal subjects, while an archetypal cosmology shifts us towards an archetypal being participating within the archetypal collective of time, space, divinity, the cosmos, the metaphysical, the psychic and the mythical. We are the universe reflecting upon itself (Berry 1999; Swimme & Berry 1992; Swimme & Tucker 2011a). (The bridge between modern industrial worldviews and traditional peoples' worldviews is constructed in sequent chapters on the new cosmology and archetypal cosmology).

6.5 AN ARCHETYPAL COSMOLOGICAL EYE ON THE DISCOURSE ON DEVELOPMENTALISM

The developmentalism discourse is analysed here with the corresponding planetary alignments of the time, i.e. through an archetypal astrological eye. This is then further synthesised to demonstrate some of the characteristics of archetypal cosmology.

6.5.1 The discourse on developmentalism through an archetypal astrological eye

6.5.1.1 Saturn-Uranus opposition (2007-2012)

The Saturn-Uranus alignment was orbiting between September 2007 and July 2012. The Saturn archetype is associated with preservation of the old, the status quo, standing the test of time, structures, institutions, governments, laws, boundaries, delays, problems and censorship (Tarnas 2010; Le Grice et al. 2012). The complex activation of the Saturn-Uranus alignment constellation in oppositional polarities, creating tension and evolving in different ways such as becoming acute crises and suddenly collapsing structures – physical, psychological, sociological and cultural – such as a computer crash, a stock market crash, civil war, protests, divorce, power outage and health crisis (Tarnas 2010; Le Grice et al. 2012).

This activation could also be a build-up of resistance or an impulse for change and the overthrowing of structures, or for unregulated financial practices; and then the sudden

repressive crackdown constraining and inhibiting innovation or change with authoritarian control such as doctrinal orthodoxy, censorship and regulation (Tarnas 2010; Le Grice et al. 2012). These were evidenced in the heavy-handed authority crackdown in the Occupy movement and the Arab Spring movements.

Additional Saturn-Uranus alignments include the square configuration for the financial crisis and the dot-com bubble burst in 2000, and the global stock market crash in October 1987 during the Saturn-Uranus conjunction. When Pluto enters, the situation becomes even more severe, as the current global recession with increased hardship, poverty and failure evidence (Tarnas 2010).

From the perspective of developmentalism and just transition discourses on the green economy, the Saturn-Uranus complex can be seen in the continued role of the homogenous state to ensure developmentalism (Saturn) against the more liberating (Uranus) heterogeneous mix of socio-technological systems of community governance and participatory democracy, particularly in infrastructure and service delivery in the urban slums of developing countries, ruling out a one-dimensional urban transition. The green revolution discourse also emphasises the pluri-state (e.g. pluri-state of Bolivia) versus modernism's mono-state as a governance structure, as well as 'the commons' movement and peer-to-peer learning versus top-down centralised governance and control.

6.5.1.2 Saturn-Pluto square (2008-2011)

The Saturn-Pluto complex can be distinguished by the intensification of contraction, conflict, oppression and violence, mass death, the projection of shadow, a distinctly graver and darker nuanced expression such the current gravity of the global economic and ecological crises (Tarnas 2010). Another characteristic is the awareness of the mass extinction of species, catastrophic oil spills and extreme climate change. Saturn-Pluto is also seen in the collective experience of limitations, resource depletion, famine, deficiency, as well as the ongoing disciplined interaction with these problems, and also the collective experience of hard work in rebuilding after an earthquake, financial

collapse or war (Tarnas 2010:178-9). The increased awareness of the energy crisis and fossil fuel scarcity together with the Uranus-Pluto activation towards technological innovation opens the possibilities for acceleration towards new energy alternatives.

This Saturn-Pluto archetype can also be seen in the green revolution discourse with its calls for ‘post-extractivism’ and the slogan ‘leave the oil in the soil, the coal in the hole, the gas in the grass’. The just transition discourse also has a strong focus on limiting the rate of resource use in its material flow analysis. Another example is the practical heterodox economic policies observed in the developmentalism discourse, such as maintaining macroeconomic stability by keeping inflation under control; having moderate interest rates and an exchange rate that assures foreign accounts some measure of stability; maintaining national security and autonomy through managing the exchange rate; promoting domestic savings, investments and innovation; tolerating moderate debt levels; ensuring domestic savings with the goal of investing in national infrastructure; building a strong public sector.

In addition, Tarnas (2012:153-154) observes in the Saturn opposition series some common themes occurring in various forms with the Saturn archetype – the principle of hard reality, challenge and crisis – a sustained crisis of power and violence (Saturn opposite Pluto 2000-2004); a sustained crisis of vision and disillusionment (Saturn opposite Neptune 2004-2008); a sustained crisis of change and destabilisation (Saturn opposite Uranus 2007-2012).

6.5.2 ARCHETYPAL COSMOLOGICAL CHARACTERISTICS EVIDENT IN THE DISCOURSE ON DEVELOPMENTALISM

The *multivalence* of the interrelation and interaction of the Saturn-Uranus and Saturn-Pluto complex is indicated above. This can also be compared to the Saturn-Neptune complex inflection of the *ideal and real*, as will be discussed under the current Saturn square Neptune (2014-2017) planetary alignment and the shift from the imagination and reality of an integral ecology to an archetypal ecology (the subject of Chapter Eight).

The spontaneous *creativity* of and by the archetype itself – which is more than the co-creativity of human participation with and through the archetypes – is another characteristic of archetypes (Tarnas 2012). This can be seen in art, music, architectural design and drama. This continuous improvisation, invention and unpredictability characterise archetypal creativity. This creativity can also be seen above where marginal communities create their alternatives to the dominant global system in matters of economics and governance.

As we have seen thus far from the discourses on the green economy, archetypes can be seen to be *multidimensional, multivalent, dynamic, indeterminate, participatory, contextual, dynamic and creative*.

6.6 CONCLUSION

The global financial crisis invigorated the discourse of developmentalism in the global south with an assimilated green economy agenda. Although there was an increased role for the state and heterodox economic policies in place, none of these southern states questioned the rationality of development as economic growth, the role of exports or investment, the exploitation of nature, or intercultural issues, and the shift was more from the Washington Consensus to a commodity consensus. Extractivism and neo-extractivism was used to legitimise the progressive state as surpluses were distributed through social welfare programmes to address poverty and inequality. Economic, social, environmental and political inadequacies continued under both neoliberal and progressive extractivist regimes. The development alternatives are critiqued from a post-extractivist position, with alternatives to development being proposed in the form of integrated top-down policy proposals such as quotas and taxes on raw materials exports, price correction, the removal of perverse subsidies, diversification, financial regulation and new financial institutions, state and market regulation anchored in civil society, broadening the revenue base for social programmes, regional autonomy from globalisation, and the embracing of indigenous knowledge together with bottom-up social movements and communities' proposals for and understanding of *buen vivir* and rights of mother earth. Dynamic

equivalents for these Latin American indigenous concepts will still need to be contextualised in other geographical and social settings.

Archetypes thus far can be seen to be *multidimensional, multivalent, dynamic, indeterminate, participatory, contextual, dynamic and creative*. Archetypal cosmology provides additional understanding and means of analyses of the corresponding link between human experience and planetary alignments and the complex dialogical interrelationship between cosmos and psyche. The new emerging cosmological works bring about a teleological shift of identity, meaning and purpose, where we no longer find our identity in the nation-state (gender, class, religion, homo economicus) but rather as integral ecological or archetypal beings in communion with the broader earth community of equal subjects.

The next Chapter identifies another approach to the green economy, namely ‘just transitions’.

CHAPTER 7: A CRITICAL ANALYSIS OF THE JUST TRANSITIONS DISCOURSE

7.1 INTRODUCTION

This discourse on the green economy builds from transition theory alluded to previously. The theory of long-wave transition analysis forms the basis of interpretations of the recent global financial crisis and subsequently informs the responses and contributions made in transitioning towards sustainability. These responses and contributions are very briefly elaborated upon and include the work and reports of the newly appointed IRP under the auspices of UNEP.

The term *just transition* is also used quite extensively by trade and labour groups in addressing unemployment and the creation of both new and sustainable employment opportunities and should not be confused with how Swilling and Annecke (2012) use the term in their book *Just Transitions*. (The term ‘just transition’ as used by trade and labour groups was analysed in Chapter Three on the green transformation discourse).

Escobar (2014) places the *degrowth* discourse of the global north (mainly Europe) together with the *post-development* or *alternatives to development* discourse of the global south (mainly Latin America) within the broader transitions discourse as they pertain to civilisational and paradigmatic transformation. Escobar (2014:1) maintains that the dialogue between these various discourses could be mutually enriching and effective for a politics of transformation. A few northern academics (Brand 2014; Demaria et al. 2013; Latouche 2009; Martinez-Alier et al. 2014) have also incorporated southern perspectives but do not place them within the broader transitions discourse. For the purpose of analysis of the green economy, both ‘degrowth’ and ‘alternatives to development’ are categorised under the green revolution discourse (Chapter Two) as they are the most advanced in addressing modernism, the State, the market, neoliberalism, growth and structural change, and they are inclusive of social movements, which is not found in any of the other discourses on the green economy. The final section highlights the limitations of this approach and provides an archetypal analysis of the just transitions discourse.

7.2 TRANSITION THEORY

Chapter Three of Swilling and Annecke's book *Just Transitions* (2012) provides a conceptual understanding of the transition theoretical approach adopted in this discourse on the green economy or transition to sustainability. The work builds on the well-known Soviet economist Kondratieff's (1935) cycles of analysis and it synthesises:

- i. What Fischer-Kowalski (2007) and her colleagues at the Institute for Social Ecology refer to as wider *socio-ecological regime transitions*. This includes the transition from the hunter-gatherer period in history to the agrarian period. This school of thought now sees humanity at the end of the current industrial epoch, transitioning to the period of sustainability (Fischer-Kowalski & Haberl 2007);
- ii. Together with Perez's (2002, 2007) five technological revolutions over the past 250 years within the *industrial epoch*: i) the industrial revolution (Britain); ii) age of steam and railways; iii) age of steel and heavy engineering (Britain/USA/Germany); iv) age of oil, autos and mass production (USA); and v) the ICT revolution (USA) (Perez 2002, 2007);
- iii. And Gore's (2010) post-*World War II development cycle* (Swilling and Annecke 2012:53-80).

During the 'installation period', when these new technologies emerged in specific sectors, financial capital and speculative investment were the driving dynamics (Perez 2007; Swilling 2014a). Swilling and Annecke (2012) see a link between Perez's (2002, 2007) fifth industrial transition (i.e. the information age) and the next sustainable socio-ecological transition (the third socio-ecological epoch in Fischer-Kowalski *et al.* terms), bridged by UNCTAD economist Charles Gore's argument that the next Kondratieff cycle will be ushered in both by the ICT (information, communications and technology) sector as well as by new renewable energy sources geared towards a low carbon economy (Gore 2010:725 cited in Swilling & Annecke 2012:70).

7.3 INTERPRETATION OF THE GLOBAL FINANCIAL CRISIS 2007-2011

In terms of this discourse the interpretation sees the dovetailing of the global financial crisis together with the three above-mentioned aspects of transition theory:

- i. The ending of the broader socio-ecological epochal crisis of the industrial era and transition to sustainability (Fischer-Kowalski & Haberl 2007).
- ii. The end of the industrial epoch, i.e. the historical cycle linked to the sixth green Kondratieff wave that distinguishes the five long waves (techno-economic paradigm shifts) of the last 250 years, which were driven by new pervasive technologies (Perez 2002, 2007).
- iii. The end of the Post World War II development cycle (Gore 2010; Swilling & Annecke 2012; Swilling et al. 2013b). Human civilisation is thus seen to be making the ‘transition towards sustainability’ and the ‘great transformation’ is believed to be taking place.

According to Geels (2013), the global financial crisis offered a window of opportunity in the early years (2008-2010) for effecting the transition, but since 2010–2011 this window has shrunk, with the financial-economic crisis having rather negative influences in the transition towards sustainability.

7.4 RESPONSES AND CONTRIBUTIONS

This broader, synthesised interpretation of the financial crisis also informs the work of the newly appointed International Resource Panel (IRP) of the UNEP as they document the end of an epoch and the ‘sustainability-oriented transition’ or the so-called ‘third great transformation’ (Fischer-Kowalski & Swilling 2011; Swilling et al. 2013; Swilling 2014b). (This discourse also links to various other approaches within transition theory as discussed below).

7.4.1 Decoupling, multi-level perspective (socio-technical approach) and urban metabolism (material flow analysis)

Swilling et al. (2014) propose a combination of the multi-level perspective (MLP) with urban metabolism using material flow analysis (MFA) as a way to structure sustainable urban transitions and bring about system change. The multi-level perspective (MLP) is a socio-technical approach within transition theory that uses the concepts of landscape (international), regime (national) and niche (city), which are correlated as follows: landscape (MLP) = industrial socio-ecological regime (Fischer-Kowalski et al.); regime (MLP) = five industrial technical revolutions (Perez 2002, 2007) (Swilling & Annecke 2012); and for the niche (MLP) Swilling et al. (2014) propose urban metabolism and material flow analysis.

Although three recent African reports – i) *Dynamic Industrial Policy in Africa Report* (United Nations Economic Commission for Africa (UNECA) 2014; ii) *African Transformation Report* (African Centre for Economic Transformation (ACET) 2014); and iii) the *Structural Transformation and Sustainable Development in Africa Report* (United Nations Conference on Trade and Development (UNCTAD) 2012) – all call for ‘sustainable structural transformation’, only the UNCTAD report refers to decoupling economic growth rates from rates of resource use (Swilling et al. 2014) and none of the reports locates where this sustainable structural transformation is to take place (Swilling et al. 2014). Swilling et al. (2014) suggest that this sustainable structural transformation will need to also include the spatial consideration of the city.

The African context, however, also reveals more of a ‘multi-segmented and dysfunctional regimes’ setup that has been integrated across multiple spatial scales, as well as technological, cultural and environmental domains resulting in difficult transitions (see e.g. studies on MLP conducted by Naess and Vogel (2012 cited in Swilling et al. 2014). The heterogeneous mix of socio-technical systems is part of everyday African urban life, thus ruling out single, one-dimensional homogenous urban transitions across Africa (Jaglin 2014; Swilling et al. 2014). This makes it challenging to specify MLP regimes as if they can only be understood as single functional technological solutions and thus a new

approach to urban metabolisms will have to be found (Swilling et al. 2014).

7.4.1.1 International resource panel (IRP/UNEP) Reports 1 and 2

The United Nations Environment Program established the IRP in 2007. The first IRP report was entitled *Decoupling Natural Resource use and Environmental Impacts from Economic Growth* (Fischer-Kowalski & Swilling 2011). The second IRP report was entitled *City-Level Decoupling: Urban Resource Flows and the Governance of Infrastructure Transitions* (Swilling et al. 2013).

For the United Nations Environment Program a fundamental basis for its green economy is the rejection of what they call ‘the *myth* that there is a dilemma between economic progress and environmental sustainability’ (UNEP 2011a: 2-3). The work of the IRP is concerned with decoupling, with a focus on urban metabolisms and material flows analysis. A key conclusion of the first IRP Report is that a transition to a more sustainable global economy will depend on absolute resource reduction in the developed world, and a relative decoupling of economic growth rates from rates of resource use in the developing world (Fischer-Kowalski & Swilling 2011; Swilling 2014b).

The UNEP/IRP report (Fischer-Kowalski & Swilling 2011) links absolute decoupling to the Environmental Kuznets Curve (EKC), which claims that at some point of economic growth and per capita income the impact of economic production and consumption decreases and heads towards an ‘absolute decoupling’ level of zero (Fischer-Kowalski & Swilling 2011: 5, 19). But the EKC is a flawed model in various respects: it has been used as an argument for ‘grow first, clean up later’ (Stern 2004 cited in Wanner 2014); the exact point of economic growth and per capita income at which the level of environmental impact decreases cannot be clearly established (Wanner 2014); the limits or thresholds, in particular regarding biodiversity loss, might have been breached before the economy reaches the EKC turning point (Everett et al. 2012 cited in Wanner 2014). The EKC is not reliable for ascertaining complex relationships between environment and economy such as those involved in climate change (Everett et al. 2010 cited in Wanner

2014). The Jevon's Paradox or rebound effect³ (Naess & Hoyer 2009; Wanner 2014; Steady State Manchester 2014) adds to the challenge of how efficiency gains that have been achieved can be met with an absolute reduction in resource consumption (Brand 2012; Jackson 2009). Absolute decoupling is often measured as sector specific (e.g. energy sector) and not sector wide (Steady State Manchester 2014).

The work of the IRP does not include social actors and their networks, nor does it include institutions that maintain socio-economic interests (Swilling 2014b). Critiquing the focus on retrofitted buildings (greater water and energy efficiency); sustainable infrastructure (public transport, renewable energy that reduces the carbon footprint in the construction and buildings sector) and the green industry (new manufacturing jobs for the service and competitive products sector). Salleh, (2010a) sees this as a productivist engineering approach of ecological modernisation that does not take into account the global social movement call to reconfigure the global social contract. Instead of the global north narrative on efficiency, the shift needs to be towards eco-sufficiency (Salleh 2010a). Ecological modernists promote decoupling or dematerialisation that assumes efficient technologies can be found to increase economic growth while decreasing material and energetic inputs and outputs, but the notion of the efficient machine is a myth, relying on a myriad of uncounted ecological costs, externalised, elsewhere, and one where

Productive efficiency is a formula by which dead matter extracted from life giving metabolic relations is transformed by dead labour (alienated or technologised) and distributed for consumption as dead product (Salleh 2010a:9).

The financial and technological transfers from the industrialised north to developing countries to enable this transition are still trapped in issues of intellectual property rights with no clear funding mechanism or institution in place under the IRP. Under the UNFCCC climate agreement governments have established a technology mechanism as well as the Green Climate Fund, but this remains an empty shell and is yet to be fully

³ When a nation sees an increase in its income level, there is a corresponding increase in consumption of natural resources through a more resource-intensive lifestyle.

capitalised. If one observes the ongoing tensions in the global climate negotiations to water down past legal agreements on principles of equitable sharing of the carbon budget, common but differentiated responsibilities and capabilities, historical responsibility and provision of finance and technology to developing countries, then the enabling of this transition suggested by the IRP will remain elusive. Public domestic funding in developing countries is still very much slanted towards mega infrastructure that serves the South African minerals and energy complex (MEC) (Swilling & Annecke 2012), with those in government having a conflict of interest as they also have shares in the MEC (Fine 2011).

7.4.1.2 Lynedoch eco-village and just transitions

Additional insights into thinking through the potential for bio-regional economic diversification and niche level transitions are found in the book *Just Transitions*, which documents some of the work of the Lynedoch eco-village, South Africa (Swilling & Annecke 2012). The authors see the epochal, industrial, urban, agro-ecological and cultural transitions intersecting within the next half century. This eco-village embraces non-resource-intensive economic niche activities, systems design, a community scale and community-owned infrastructure and technology, which the authors see as key to enabling city-level and macro-economic transitions to sustainability to take place within the African context. Their spatial-temporal, context-specific approach counters ecological modernisation that will green the existing modes of production and consumption with private sector investments for low-carbon resource-efficient economies, whilst leaving inequalities intact. It is argued, instead for a degrowth of the industrialised north and a 'just transition' to a more sustainable long-development cycle that will see the sustainable use of natural resources with sufficiency. This emphasis on sufficiency is absent in the IRP reports, which focus narrowly on efficiency. Swilling and Annecke (2012) have coined the term 'liveable urbanisms' that attends to the restoration of resources and ecosystems.

Swilling and Annecke (2012:72) add that the interests of the current global mineral energy complex are blocking the transition to low-carbon economies and add that more

ways will need to be found in the social and real economies to enable the new information technologies that make more sustainable use of resources to counteract the rising resource prices and resource depletion. They see an *innovative development state*, ‘which invests in sustainability-oriented innovations as an explicit way to drive job-creating growth’, as playing a key role in this regard. This interventionist role for the state will integrate development economics and ecological economics beyond mainstream Keynesian and Marxist economics (Swilling & Annecke 2012:87; 83-106).

In light of the above, the importance of this eco-village model lies in the heroic attempts the inhabitants are making to achieve a class-mixed, community-owned scale of infrastructure, technology and agro-ecological practices to ensure energy and food sovereignty. These attempts at a just transition are complex, given the apartheid history of South Africa, and particularly important, given the mega infrastructure project fetish that African governments have as evinced in (for example) the large hydro-power plans for the Democratic Republic of Congo and Medupi coal in South Africa, as well as the growing food insecurity as a result of climate change and degraded soils from industrial agriculture.

7.5 LIMITATIONS OF THIS APPROACH

The shortcomings and limitations of this approach are addressed in the discussions on the various synthesising components of transition theory listed in section 7.2 above. Although they do not specifically refer to their approach or work as ‘integral ecology’, it is certainly implied throughout the book. However, the three synthesising components of their transition theory (socio-ecological regime transitions approach, the industrial technological revolutions and the post-World War II development cycle) remain anthropocentric and dualistic. Human earthlings (i.e. the human species) form an integral part of the 13.7 billion year journey of the universe. Deep earth history and the unfolding new story of the universe provide the current cosmological context and serve as a corrective to this approach (see Chapter Eight).

1. The *socio-ecological regime transitions approach* integrates both the social and environmental issues well. Very often the social aspects of equity and justice are separated and neglected in ecological discourses, where the focus remains narrowly on environmental concerns or only on social issues, and so it is important to see how the social and environmental ecology aspects have been integrated into their work. Integral ecological approaches (discussed in Chapter Eight) extend environmental and social ecology to include deep ecology.

The out working of the ‘just transitions’ discourse also varies. Whilst the issue of linking social and environmental concerns remains prominent in the Lyndeocho eco-village, this linkage is absent in the IRP/UNEP reports. For example, the IRP does not include social actors and their networks or institutions that maintain the socio-economic status quo, but rather focuses more on quantitative scenario modelling. The actual framework of the IRP does not include the agreed upon principles and provisions found in the Rio+20 outcome document or the international (UNFCCC) climate convention principles that takes into account historical responsibility, equity, common but differentiated responsibilities and respective capabilities, and the legally agreed upon provisions of finance and technology transfers from developed to developing countries. There is much controversy and disagreement between developed and developing countries around these principles and provisions. The IRP has yet to establish a legally binding compliance mechanism on resource reduction. The ‘fair shares’ approach to sharing the atmospheric carbon budget has been captured and modelled in a comprehensive manner by EcoEquity and the Stockholm Environment Institute (Baer et al. 2014) and can easily be linked to the IRP framework. Deep ecology, as part of an integral ecology, is also noticeably absent in these IRP reports. The works that adopt an explicit integral ecological approach (Berry 1999; Boff 1995; Earth Charter 2000; Hathaway & Boff 2009; Swimme & Berry 1992; Swimme & Tucker 2011a; Pope Francis 2015; Mickey et al. 2013) and an implicit integral ecological approach (Latour 1991, 2004, 2013; Morin 2007), as well as the new

emerging archetypal cosmology (Le Grice et al. 2012; Tarnas 2011, 2012) all serve as a corrective to this fragmentation of the scientific worldview.

2. Perez's (2002, 2007) five technological revolutions over the past 250 years within the *industrial epoch*. This approach has a strong focus on new technology, innovation and market finance to assist in the transition. Whilst we will need infrastructure and technology that is less resource intensive and environmentally damaging, we cannot simply have new technology replacing old technology. New tech replacing old tech is very similar to private sector-driven (public-private partnership) ecological modernisation that makes efficient use of natural resources. Latour (2015) likens ecomodernism to the news that an electronic cigarette is going to save a chain smoker from addiction and calls on ecomodernists to 'wake up' as we are in the anthropocene not the holocene. For Berry (1999) and Swimme (Swimme & Berry 1992) this would still be considered as part of our current technozoic era and we are not making the needed eco-zoic shift. Our current scientific materialist (mechanistic science) approach and worldview has provided us with a dead, soulless dis-encharmed cosmos and a mis-enchantment with technology, consumerism and capitalism (Hathaway & Boff 2009; Latour 1991, 2004, 2013). What is missing and needed is a re-enchantment (Tarnas 1991, 2006, 2012) of the cosmos for modern society. This means less of an emphasis on new innovative technology and financial markets as a solution in order to transition to sustainability and more of a focus on eco-sufficiency and the flourishing of the whole community of life, i.e. less of a technocracy and more of an earth democracy. As the next Chapter on the discourse on integral ecology will demonstrate, hope and trust shift from the centrality of techno-science to the evolutionary, expanding animated cosmos.

We are not lacking in the dynamic forces needed to create the future. We live immersed in a sea of energy beyond all comprehension. But this energy, in an ultimate sense, is ours not by domination but by invocation (Berry 1999:175).

3. Gore's (2010) *post-World War II development cycle*. This can be seen to be developmental and maintains the logic of modernism (Escobar 1992, 2008), i.e. developmental economics and evolutionary economics instead of 'alternatives to development' (Gudynas 2013b), as previously discussed.

The transition depicted here is also linear and deterministic, as is mechanistic science, and still based on an extractivist model that has been critiqued by the post-extractivist position (see chapters on green revolution and developmentalism).

This approach aims at the *structural* transformation level for system change and is needed, but given the urgency of our civilisational crisis, attention needs to be devoted to addressing *underlying assumptions and consciousness at the worldview* level from where these structures and systems originate to provide a more visionary and alternative approach (Hathaway & Boff 2009; Macy 1998). Eco-villages encompass forms of visionary action and contain seeds of the new paradigm (Hathaway & Boff 2009:351). Shifting perceptions and paradigms and actively embodying the new cosmology is the least clearly defined area and the most challenging to conceive clearly, but it is the sphere with the greatest potential for radical transformation (Hathaway & Boff 2009:351). One of the examples Hathaway and Boff (2009:351) cite is the re-mything of the cosmic story. The next chapter covers this new story of the cosmos.

In addition, the green revolution discourse, discussed earlier in Chapter Two, also serves as a critique of the 'just transition' discourse. Briefly, the shift discussed was from 'development alternatives' to 'alternatives to development' (post-development), where the end goal was not growth or progress, but rather eco-sufficiency, post-extractivism, the commons and the inclusion of rights for mother earth. This shift also included a non-technological emphasis and a rejection of the state-market nexus monopoly to ensure the transition to sustainability.

7.6 AN ARCHETYPAL COSMOLOGICAL EYE ON THE JUST TRANSITIONS DISCOURSE

The just transitions discourse is analysed here with the corresponding planetary alignments of the time, i.e. through an archetypal astrological eye. This analysis is then further synthesised to demonstrate some of the characteristics of archetypal cosmology.

7.6.1 The just transitions discourse through an archetypal astrological eye

The larger Uranus-Pluto square alignments of 2007-2020, with Saturn's entry into the complex in 2008-2011, are discussed below.

7.6.1.1 Uranus-Pluto square (2007-2020)

According to Tarnas (2010), this alignment is accompanied with huge demographic shifts. This can be seen in a number of aspects in the green economy discourses. The first is in the shift of trans-disciplinary knowledge production evident in the green revolution discourse, where academics seek to include the position and knowledge of previously excluded local and indigenous communities. The second shift comes from the just transition discourse that highlights and brings to our attention the fact that the first urbanisation wave took place in industrialised developed countries, whereas the second urbanisation wave is taking place across the developing world with the world population projected to reach 9.3 billion by 2050. The number of people living in urban areas is projected to increase from 3.6 billion in 2011 to 6.3 billion in 2050, with one in three persons living in urban slums. It is in these secondary cities in Asia and Africa where infrastructure development has yet to be built and all this in the context of severe ecological constraints. These developing countries have a very young demographic compared to the aging populations found across the industrialised world. Added to this demographic and spatial shift under Uranus-Pluto, we can also see a shift in scale with communities calling for small-scale infrastructure that is community controlled as opposed to mega-infrastructure development projects. This is particularly emphasised by the green revolution discourse in their calls for 'food and energy sovereignty'. Again, the calls for localisation versus globalisation reflect the shifts taking place at the community

level under the current Uranus-Pluto alignment. The Lynedoch eco-village examined within the just transitions discourse presents an additional example of the demographic and spatial shifts taking place under the current Uranus-Pluto alignment.

7.6.1.2 Saturn-Uranus-Pluto T-square (2008-2011)

The ecological crisis and the issue of nuclear energy have again been highlighted in multiple ways (Tarnas 2010; Le Grice et al. 2012). Oil spills, mining disasters, huge earthquakes, hurricanes, tornadoes, monsoons, volcanic eruptions and rises in sea level are all occurring with an increased number of crises, and with increased intensity and frequency under the Saturn-Uranus-Pluto alignment (Tarnas 2010). The different principles of Uranus are seen, i.e. the unexpected, the unpredictable, and the disruptive; Pluto's deep, huge and overwhelming scale; Saturn's mortality, disease, hardship and grave consequences. The Uranus-Pluto diachronic pattern is seen in the nuclear plant builds in 1960-1972 in the USA, with no new construction after 1973 but then the re-introduction in the fall of 2008, when twenty-one companies sought permission to build thirty-four new reactors and Obama giving the green light on 16 February 2010 to build two new reactors in Georgia (Wald 2010 cited in Le Grice et al. 2012). In the UK in 2009 the Labour government approved proposals for ten new reactors, and since 2007 Sweden, Italy, Romania, Finland, the Czech Republic, Slovakia, Switzerland and Croatia have all released plans for new nuclear power stations (BBC News 2010 cited in Le Grice et al. 2012). Here we see the archetype interaction of liberation (Uranus) with the powers of nature (Pluto) empowered by technology and using technology to access immense power and energy (Le Grice et al. 2012).

Technological innovations and breakthroughs are very characteristic of the Uranus-Pluto complex. Le Grice et al. (2012: 240-255) mention a plethora of examples: i) the rise of mobile computing and social networking, with the notable release of the Apple iPhone in mid-2007 (the first telephone was invented by Alexander Graham Bell in the 19th century during the last Uranus-Pluto alignment) and the increased output since then of tablet computers and smart phones. Linked to the Internet explosion is the social media explosion of Twitter, Facebook and YouTube; ii) the technological revolution has

changed global demographics with far-reaching changes in the social and economic arenas – mass demographic shifts under Uranus-Pluto are common (Tarnas 2010) such as 24-hour shopping and convenience with wider choices, decentralised workplaces, increased computer memory and speed, rapid interaction and information sharing (such as in the Tunisian uprising), iii) in the field of genetics and evolution the first genetic evidence of interspecies breeding (i.e. Neanderthal DNA) was discovered in 2010 (cited in Le Grice et al. 2012) and Darwin's *The Origin of Species* was written in the Uranus-Pluto conjunction of the mid-19th nineteenth century. Concerns in biological engineering were evident in 2010 when the first synthetic DNA was created (Wikipedia cited in Le Grice et al. 2012); iv) on 4 July 2012 the European Organisation for Nuclear Research (CERN) discovered a particle consistent with the Higgs boson particle – the particle is believed to have produced the Higgs quantum field that provides all elementary particles with their mass; v) examples of aviation and space flight include the first flight by the Wright brothers under the Uranus-Pluto opposition in 1896-1907 and then the space race under the Uranus-Pluto conjunction of 1960-72 and the first lunar landings by Neil Armstrong and the current Uranus-Pluto alignment has produced a duplication of multiple space agencies (Belarus, Mexico, Venezuela, South Africa, UK) with the first female astronaut, Liu Yang, from China going into space in 2012, and NASA's Curiosity landing on Mars in 2012 to cite just a few examples.

The just transitions discourse has as one of its focal points the socio-technological innovations that occurred historically and sees (green) technological innovations, coupled with financial and market mechanisms, as assisting the transition to sustainability. The dangerous and controversial shadow of these technological breakthroughs is also highlighted in the green revolution discourse (many climate related), e.g. carbon capture and storage, geo-engineering, synthetic biology, genetically modified organisms (GMOs) and biofuels.

In summary, Tarnas (2010:189) sees this T-square as a planetary crisis of consciousness moving either towards total collapse or a radical restructuring of our current civilisation and world-view.

7.6.2 ARCHETYPAL COSMOLOGICAL CHARACTERISTICS EVIDENT IN THE JUST TRANSITIONS DISCOURSE

The *multidimensional* characteristic of archetypal cosmology is evident in the individual brilliance of technological advancement with the simultaneous collective consciousness shifts over several epochs, i.e. in the shifts from hunter-gatherer to the agricultural to the industrial to the technological.

The *multivalent* characteristic is seen in the diachronic and synchronic technological innovations and breakthroughs, the demographic spatial and scale shifts, the focus on the youth, the highlighting of the ecological crisis and a focus on nuclear energy (these were all discussed under the Uranus-Pluto alignments).

Based on their multidimensional and multivalent characteristics, archetypes (as shown above) can be said to be *indeterminate*, i.e. *archetypally* predictive but not *concretely* predictive (Tarnas 2012). The co-determining factors of context and the unpredictable role of the human agent and the unpredictable and indeterminate deeper spiritual power informing all events and humans also make absolute predictability impossible (Tarnas 2012). This brings together the uncertainties and contradictions, and holds them together in creative tension. (This study set out to extend the rational discursive dialectic to include the more intuitive, imaginative, speculative and visionary aspects).

The *contextual* characteristic informed the archetypal manifestation and form, and they included the biological, ecological, collective, cultural, epochal and historical.

Skilful co-creative *participation* with archetypes can be enhanced through understanding and owning projections as one becomes more aware of the archetypal influences at work as well as the personal and collective shadow. For example, the Saturn-Pluto hard aspect world transits, with the collective to project good versus evil in highly charged dramas,

victimisation fantasies, feelings of helplessness in the grip of overwhelming dark, impersonal forces, creating and strengthening barriers and boundaries (Tarnas (2012:52).

The spontaneously *creative* impulse of the archetype itself is also evident – not only in technology but also in the current shift from the global mono system to the local place-based bioregion. This issue will be elaborated on further in rethinking sustainability and the emergence of archetypal earth communities (Chapter Ten).

Archetypes synthesise to provide the formal patterns (*eidos*) as well as providing the dynamic sources (*arche* and *telos*) of energy and manifestation. Archetypes are *dynamically* creative (Tarnas 2012).

7.7 CONCLUSION

Under this discourse on the green economy the financial crisis is seen as interlinked with the end of the industrial socio-ecological epoch, the sixth green industrial technological revolution wave, and the end of the post-World War II long-term development cycle towards the ‘global sustainable transition epoch’, otherwise referred to as the ‘third great transformation’. This interpretation of the financial crisis has elicited various responses and contributions, which include the establishment of the IRP under the auspices of the United Nations Environment Program, whose work advocates for absolute resource reduction in the developed world, and a relative decoupling of economic growth rates from rates of resource use in the developing world. The work of the IRP focuses on integrating other theoretical positions on transition such as the multi-level perspective (socio-technical approach) with urban metabolisms (material flows analysis) within the spatial-temporal urban city. Decoupling has in turn been critiqued as having used a flawed technical EKC; as incurring a rebound effect (or Jevon’s Paradox); as being sector-specific; as upholding a productivist engineering approach similar to ecological modernisation; as having funding and technology transfer difficulties and a lack of support institutions or mechanisms in place to enable the transition; as having not

included social actors and their networks; upholding the logic of modernism and developmentalism; and lacking an integrated ecological framework.

The Lynedoch eco-village represents a bioregional model of a class-mixed, community-owned scale of infrastructure, technology and agro-ecological practices to ensure energy and food sovereignty.

The limitations of this just transition, green economy approach include a fragmented rather than an integral ecological outworking (specifically evidenced in the IRP reports). This approach signals a techno-democracy or mis-enchantment with technology and financial markets to enable the transition to sustainability, as it is based on a disenchanted, soulless cosmos revealed by mechanistic science. In addition, this discourse is limited to modernism's progressive development and extractivist perspective, which focus on surface-level structural transformational change and not on an accompanying underlying root worldview change. The long-wave analysis theory (i.e. the socio-ecological regime transitions, industrial technology revolution and post-World War II developmental cycle), upon which just transitions rests, has yet to integrate the human story within the epic 13.7 billion year story of the universe. Deep earth history (the journey of the universe) provides the current cosmological context, and together with the journey of the Western mind (the subject of the following chapters), serves as a corrective and lays the foundation for rethinking sustainability.

This discourse is archetypally rich in understandings and further detailed examples of the archetypal characteristics will be explained in Chapter Nine.

7.8 IDENTIFIED DISCOURSES ON THE GREEN ECONOMY

Chapters Two to Seven have outlined the various discourses identified on the green economy, namely green revolution, green transformation, green growth, green resilience, developmentalism and just transitions. These chapters sought to meet the first aim of the research as outlined in the introduction, namely to critically analyse the current discourses on the green economy.

The astonishingly consistent correlations and synchronistic patterns evidenced between human experience and archetypal planetary alignments present a challenge to these various discourses on the green economy and to the scientific materialism upon which some of them rest. The meticulous study by Tarnas (2006, 2012) - based on over forty years of research - opens a new horizon that reunites cosmos and psyche, science and spirituality, rational reasoning with traditional thinking, and provides the rationale for rethinking the question of sustainability.

The following two Chapters (Chapters Eight and Nine) attempt to achieve the second objective of the research, namely to address the modern dichotomy of a living purposeful evolving self within a dead, random mechanistic universe, paving the way for a broader worldview inspired towards achieving greater inclusiveness and engagement in the shift towards sustainability. Chapter Eight identifies an additional discourse on the green economy and sustainability, namely integral ecology. Integral ecology is situated within the new emerging cosmology, with parallels in archetypal astrology and the emerging field of archetypal cosmology (Chapter Nine).

CHAPTER 8: AN EMERGING NEW COSMOLOGY AND THE DISCOURSE ON INTEGRAL ECOLOGY AND ARCHETYPAL ECOLOGY

8.1 INTRODUCTION

This Chapter begins with the narrative on the journey of the universe as told by Thomas Berry, a geologist and deep earth historian, together with mathematical and evolutionary cosmologist Brian Swimme (Berry 1999; Swimme & Berry 1992; Swimme & Tucker 2011a). This provides the current cosmological context of contemporary location.

Cosmology is related to and used interchangeably with concepts such as worldview and paradigm. A cosmology that articulates a story or ‘myth’ about the origins of the universe and gives meaning to our perceptions of reality can be scientific, religious or philosophical. A new cosmology has been emerging from across multiple fields such as quantum physics, new biology, complexity or systems theory, integral ecology, anthropology, philosophy, depth psychology and archetypal astrology. Many of these insights are leaning towards a speculative philosophy or ecology and prompting the rethinking on sustainability.

The discourse on integral ecology, whether explicit or implicit, has been strengthened since the 1990s to address the current scientific materialist cosmology. Although the discourse on integral ecology does not specifically speak to the recent global financial crisis, it attempts to address the underlying worldview assumptions made. The recent release of the integral ecological encyclical, *Laudato si*, by Pope Francis (2015) serves as an example of this discourse and is also analysed from an archetypal perspective and provides a glimpse into an archetypal ecology. The parallels between and synthesis of integral ecology and archetypal astrology are highlighted and grounded and point to the emergence of archetypal earth communities.

8.2 AN EMERGING NEW COSMOLOGY

An emerging new cosmology is replacing the current scientific materialist worldview with insights from multiple disciplines and fields of study.

8.2.1 The journey of the universe

The journey of the universe provides the cosmological context for our understanding of the comprehensive story of the unfolding of the cosmos. Currently insights from physics and astronomy explain the emergence of galaxies and stars; geology and chemistry assist in understanding how the earth was formed; biology helps to trace evolutionary life; and anthropology and history explain the rise of humans (Tucker 2014).

The journey begins by imagining the story of our universe of fifteen billion years converted into one century (Swimme & Berry 1992: 269-78 cited in Hathaway & Boff 2009: 4-7). This means that one cosmic year is equal to 150 million earth years (Hathaway & Boff 2009:4-7). Instead of thinking as the journey in linear time, one can conceive the journey as that of a seed that is growing, expanding and evolving according to ‘*cosmogenetic principles*’ i.e. ‘*differentiation, interiority* (autopoiesis i.e. consciousness, self-organising) and *communion*’ (1992:66-78) – this is what Swimme and Berry (1992), and then subsequently Swimme and Tucker (2011a), used in their book and award-winning documentary film *Journey of the Universe*.

Table 8.1 is a summary of the story/journey of the universe from the work of Swimme and Berry (1992:269-78), Hathaway and Boff (2009:4-7), and Swimme and Tucker (2011a).

Table 8.1: Journey of the universe

70 th year of the cosmic century our planet Earth is born
73 rd year life appears in oceans and transforms the atmosphere, oceans and geology in order to be able to sustain complex life forms
93 rd year the evolutionary process speeds up and the creative invention of reproduction occurs together with the death of unique organisms
95 th year multi-cellular organisms appear
96 th year first nervous systems appear
Less than one year later first vertebrates appear
Middle of 98 th year mammals arrive, two months after dinosaurs and the first flowering plants
Five months ago an asteroid hits earth and destroys many species, including dinosaurs
The planet makes a quick recovery with the blossoming of a variety of life forms – the Cenozoic era
Human beings are born into this beauty, and 12 days ago our ancestors stand up and walk and a day ago <i>Homo erectus</i> discover how to tame fire; modern humans <i>Homo sapiens</i> are born 12 hours ago
Humans and nature live in harmony for the afternoon and evening of this cosmic day, until 40 minutes ago, when we domesticate flora and fauna through agricultural practices
Some of us move to cities 20 minutes ago where we increasingly affect the world's ecosystems and just 2 minutes ago Europe transforms into a technological society. The gulf between wealth and poverty widens
Just 12 seconds ago (1950 onwards) the rate of exploitation and destruction of earth skyrockets

Source: Hathaway & Boff (2009:4-7)

In this journey of the cosmos we see that life has become more diverse and complex (i.e. increased in *differentiation*), increased in creative self-organisation and consciousness

(i.e. *interiority*) and become more interdependent (increased in relationships or *communion*). Life has sustainably flourished and created many novel forms and patterns. It is only very recently that human earthlings arrived (12 hours ago) and yet they have been the sole cause of the pending sixth mass extinction of species (Hathaway & Boff 2009).

This cosmological perspective shifts away from the current anthropocentric and mechanistic scientific orientation towards embracing a functional and living cosmology, which recognises that evolution is governed by natural laws that can be discovered by scientific methods and empirical observation (Berry 1999, 2006). Both science and religion assist us in seeing that humans are part of a larger participating integrated and complex whole where awe and wonder are expressed through the shared experience of reverence (Tucker 2014).

8.2.2 INTEGRAL ECOLOGY

Just as Swimme and Berry (1992) used the ‘cosmogentic principles’ of ‘*differentiation, interiority* (autopoiesis i.e. consciousness, self-organising) and *communion*’ above, Hathaway and Boff (2009:300-301) applied similar understandings to the exteriors of the whole community of the earth (environmental ecology); interiority, spirituality and mentality (deep ecology); and socio-economic and political aspects (social ecology), which they termed *integral ecology*. Independently of each other, the Brazilian liberation theologian and Right Livelihood Award recipient, Leonardo Boff, and the American geologist and cultural historian, Thomas Berry, both began developing their work on integral ecology in the 1990s as they saw integral ecology as the transformative bridge between our current dualisms found in science and religion.

Instead of viewing the transition to a sustainable society in terms of planetary limits and restrictions (such as seen in the earlier six green economy discourses), Hathaway and Boff (2009) envision a new and compelling concept of ‘sustainability as liberation’. Liberation is framed in the cosmic perspective as the process through which the universe

seeks to realise its own potential as it drives toward greater differentiation, interiority (or self-organisation and consciousness), and communion. Within such a context human individuals and societies become liberated to the extent that they: i) become more diverse and complex, truly respecting and celebrating differences; ii) deepen the aspect of interiority and consciousness, fostering creative processes of self-organisation; and iii) strengthen their bonds of community and interdependence, including their communion with the greater community of life on earth (Hathaway & Boff 2009:xxv).

French philosopher Edgar Morin (2007) talks of ‘complexity’ linking the natural sciences, humanities, philosophy and anthropology. His work is also very much in line with approaches to ecology articulated by many of his contemporary colleagues, including Michel Serres, Bruno Latour and Félix Guattari (Whiteside 2002 cited in Mickey et al. 2013). Although they do not explicitly refer to their work as ‘integral,’ their contributions are in line with an approach to ecology that recognises and values both the exterior as well as interior elements of ecological phenomena (Mickey et al. 2013:16).

Integral ecology is thus seen to bridge and transform the current dualism found in science and religion. It is very much the key to unlocking several dualisms simultaneously. By implication scientific and historical materialism is decentred, so that physics no longer dominates in the natural sciences and economics no longer dominates the social sciences, and spirituality is again placed or repositioned within the whole.

8.2.2.1 Complexity and systems thinking

Different names are associated with the systems perspective, including chaos theory, emergence, complexity and self-organisation. Systems theory is seen as a ‘coherent set of principles applying to all irreducible wholes’ (Macy 1991: 3). Some characteristics of the emerging new cosmology include: complex systems are radically open systems; they are relationally heterogeneous and diverse, and interactions are multidirectional; they operate in a state far from equilibrium and causality is non-linear; they are self-organising, nested, holarchical and hierarchical; they display creativity and novelty otherwise known as emergence (Cilliers 2008; Clayton & Radcliffe 1996; Hathaway & Boff 2009;

Meadows 2009; Morin 2007). In addition, complex systems also display memory (Cilliers 2006; Hathaway & Boff 2009; Sheldrake 2012); purpose and meaning (Hathaway & Boff 2009; Meadows 2009; Sheldrake 2012); anticipation or attractors (Clayton & Radcliffe 1996; Cilliers 2008; Hathaway & Boff 2009; Sheldrake 2012).

8.2.2.2 Speculative ecology

Integral ecology suggests a re-visioning of ecology within a more comprehensive cosmological context. Mickey et al. define speculative ecology as ‘the risky contemplation of inter-dwelling beings’ (2013:18). Speculative philosophy and ecology go hand in hand and can be seen in the following works as cited in Mickey et al. (2013:18): what Isabelle Stengers (2003) calls ‘cosmopolitics’, Val Plumwood (2002) calls ‘dialogical interspecies ethics’ with a commitment to ‘earth others,’ or what Donna Haraway (2008) calls ‘companion species.’ Speculative ecology is also in keeping with Alfred North Whitehead’s (1978 cited in Mickey et al. 2013) claim that ‘We find ourselves in a buzzing world, amid a democracy of fellow creatures,’). This is also similar to the view of Thomas Berry (1999:82), who said that we are a ‘communion of subjects not a collection of objects’ in which all beings possess agency and interiority, and to what Bruno Latour (1991, 1993) calls a ‘parliament of things’, later extended to include the interactions of socio-technical systems (STS) in ‘actor-network-theory’ (ANT) (2004). The political ecologies articulated by both the French thinkers as well as the Latin Americans have undergone a shift towards political ontology. This is seen in Latour’s engagement with anthropology, sociology and philosophy, and his influence from STS and his ideas on ANT and assemblages. In Latin America Gudynas (2013a) speaks of relational ontologies influenced by indigenous thought as well as evidenced in the ‘rights of mother earth’ movement (highlighted in the green revolution discourse). The recent encyclical, *Laudato si*, of Pope Francis (2015) in which the Pope calls for ‘caring for our common home’ are further examples of a speculative ecology. Tarnas and Swimme (2015), blending the journey of the universe with the journey of the Western mind, and drawing on insights from Robert Bellah’s (2011) work, speak of a ‘radical mythospeculation’.

Tarnas (2014) further elaborates on what he understands by this ‘radical mythospeculation’ (see Figure 9.1 in Chapter Nine). In previous civilisational periods the evolution of a certain symbolic consciousness reached a critical degree of reflexivity that transcended the undifferentiated socio-religious sphere to create a synthesis of logos and mythos. For example, in the axial age the philosopher in Ancient Greece, the prophet in Israel, the sage in China and the mystic in India pointed towards a higher political structure of the divinised pyramid – e.g. in Israel the prophets addressed or even rebuked earthly kings by pointing to a greater power and authority vested in the divine ‘King of kings’. Tarnas (2014) argues that there is an invisible pyramid within the modern self – i.e. the rational human mind sees itself as the top of the pyramid with its own sense of divinity over and above all species, and this is what needs to collapse and die. He goes on to suggest that the second axial era will replicate the first axial period in that it will democratise all beings in what he terms ‘*radical mythospeculation*’. Tarnas (Tarnas & Swimme 2015) adds that a comparable logos and mythos is struggling to emerge again today that co-joins spirit-matter, transcendent-immanent, eternity-time, one-many, reality-illusion, mind-body, truth-opinion, universal-particular and human-nature. The (first) axial age set in motion the paradox of both creating the crisis, but also generating the moral and intellectual resources to address it. Just as Thomas Berry (1999) called for horizontal reconnection (i.e. interreligious dialogue) as well as vertical integration (i.e. reconnecting into the roots of the cosmos), Tarnas (Tarnas & Swimme 2015) adds that the vertical openings must include reaching not only deep down into Gaia (earth) but inwards into the psychic (self) and outwards into the cosmic psychic, as well as both inwards and outwards into the soul of the cosmos and interior dimensions.

Just as integral ecology has attempted to bridge our current dualisms, so too have insights from natural science contributed towards critiquing and providing alternatives to the dominant scientific materialistic worldview.

8.2.3 Contributions from the natural sciences

Writing from within the natural sciences and critiquing materialist science using the ‘holographic analogy’, physicist David Bohm (1987, cited in Hathaway & Boff 2009) expounds the ‘*explicate*’ and ‘*implicate*’ level of reality. For David Bohm the implicate order enfolds space, time, matter and energy, while the explicate order – the world of our normal perceptions – is actually only a small portion of reality. Another approach from within the natural sciences to address the modern materialist perspective comes from Sheldrake (2012), known for his work on morphic resonance, morphogenetic fields and memory. In his book *Science Set Free* (2012) Sheldrake brilliantly exposes the dogmatic beliefs upon which modern material science is built. He does so by posing questions to subtly lift the assumptions made by material science. These include: Is the material realm the only reality? Is nature mechanical? Is the total amount of energy and matter always the same? Are the laws of nature fixed? Is matter unconscious? Is nature purposeless? Is all biological inheritance material? Are memories stored as material traces? Are minds confined to brains? Are psychic phenomena illusory?

8.3 ARCHETYPAL ECOLOGY AND THE EMERGENCE OF ARCHETYPAL EARTH COMMUNITIES

8.3.1 Integral ecological encyclical through an archetypal astrological eye

The release of Pope Francis’s encyclical, *Laudato si*, on 18 June 2015 occurred during the current very complex archetypal alignments of Uranus-Pluto square (2007-2020), Saturn-Neptune square (2014-2017), Jupiter-Venus conjunction (June-July 2015) and the Moon.

A few examples of the extremely complex archetypal interactions evident in this encyclical include: the Promethean (Uranus) element of total surprise, as this is the first Pope to talk of integral ecology. Integral ecology was first introduced by the Brazilian liberation theologian Leonardo Boff in *Cry of the Earth, Cry of the Poor* (1997). The Vatican silenced him in 1985 for his work in liberation theology. In 1992, the Vatican

tried to prevent him from participating in the Rio Earth Summit, which led to his leaving the Catholic priesthood.

The encyclical has a very particular structure or methodology (Saturn): it begins with analysis (Uranus-Saturn), then judgement (Uranus-Pluto), followed by a call to action (Saturn-Pluto), and finally the celebration of life, with a hint of hope (Jupiter-Neptune). The encyclical is in the form of a letter and the tone is one of ‘loving care’ and ‘tenderness’ or ‘fraternity’ with respect to ‘mother earth’, our ‘common home of all beings’ (Jupiter-Venus-Saturn-Pluto).

The analysis examines the rapidly increasing degradation of our ‘common home’ (Saturn-Lunar), citing data on climate change (Nos. 20-22), water depletion (Nos. 27-31), biodiversity decline (Nos. 32-42), the deterioration of the quality of human life (Nos. 43-47); Pope Francis also denounces the high rate of planetary inequality, which affects all areas of life (Nos. 48-52), with the poor as its main victims (No. 48) – revealing the multifaceted Saturn-Neptune-Uranus-Pluto archetype. Here we see in the ‘cry of the earth and the cry of the poor’ the tears of Neptune; the deeply exploited, neglected and marginalised demonstrating the archetype Pluto; with the great love and compassion of Venus (Neptune-Pluto-Venus). One could say that the sixth mass extinction of species that we currently face, attributed predominantly to humans, is in itself an archetypal sacrifice of life (Lunar-Solar-Jupiter-Venus-Saturn-Neptune-Uranus-Pluto). Conversely, this bringing to attention the suffering and loss of life and uncertainty about the future of our common home also creates the potential and possibilities for radical action and change at every level, or what Tarnas refers to as the ‘death rebirth’ experience (Tarnas 2010, 2012). The Pope adds, ‘we are Earth’ (No. 2; cf. Gen 2.7.), which is also what the Argentine indigenous singer and poet Atahualpa Yupanqui said: “humans beings are the Earth walking, feeling, thinking and loving” (cited in Boff 2015) – this links the cosmological, mythic, psychic, metaphysical and spiritual found in archetypal cosmology in multiple ways.

The Pope issues a strong reprimand to multinationals (Uranus-Pluto) for their narrow

interests and he sees the habits of the powers of this world as destructive, deceived and suicidal (Nos. 55, 59) (Uranus-Pluto-Saturn). ‘It is true that the global system is unsustainable from many points of view because we have stopped thinking about the purpose of human action (No. 61). Mankind simply disappointed the divine hope’ (No. 61) (Saturn-Neptune). His judgement is aimed at both science (Uranus-Pluto-Saturn) and theology (Uranus-Pluto-Neptune). For the scientific he addresses the way that technoscience fuels the misplaced assumption that there is an infinite availability of material goods (cf. No. 106), when we know that we have already exceeded several planetary limits. Technoscience has turned into technocracy, which has become a real dictatorship with a firm logic of domination over everything and everyone (No. 108). It is an illusion that technoscience can solve all problems because ‘everything is connected’ (No. 117) and ‘everything is related’ (No. 120). He highlights the intrinsic value of every being throughout the encyclical and addresses the problem of anthropocentrism. In addressing the theological, he does not choose doctrines but the wisdom of various different religious and spiritual paths as this is a global crisis and all must bring their collective wisdom to bear to address the crisis. Within this collective contribution he also sees an important part to be played for the Christian faith – e.g. ‘Gospel of Creation’ (nos. 62-100), ‘creation is related to a project of love of God’ (No. 76), ‘the creation of the order of love’ (No. 77) and God emerges as ‘the Lord lover of life’ (Wisdom 11:26). He quotes Pierre Teilhard de Chardin (1881-1955, No. 83 note 53) as the initiator of a cosmic vision and as saying that the universe ‘consisting of open systems that come into communion with each other’ (No. 79). By doing this he indirectly opens an evolutionary view of the cosmos (Boff 2015) (this concept was discussed in detail in Chapter Eight under the journey of the universe).

Following the analysis and judgement, he issues a call to action on what he sees needs to be done (Saturn-Pluto). He addresses multiple themes of politics, economics, education, dialogue between science and religion, and education on ‘ecological citizenship’ (No. 211). A new lifestyle that is caring and compassionate is needed, with a new alliance between humanity and the environment, since both are umbilically linked (Saturn-

Neptune, Saturn-Lunar), and our common destiny is the co-responsibility for everything that exists and lives (Nos. 203-208).

To end the encyclical, he speaks of a time for celebration within this new context of 'ecological conversion' (No. 216), or 'ecological spirituality' (No. 216) and a joyous mystery (Jupiter-Neptune). He speaks of indestructible hope, poetry and joy in the Spirit and ends with words from the Earth Charter (No. 207)

Let ours be a time remembered for the awakening of a new reverence for life, the firm resolve to achieve sustainability, the quickening of the struggle for justice and peace, and the joyful celebration of life.

The Jupiter-Pluto archetype is evident in the mass following that the Pope enjoys, i.e. the 1.2 billion Catholics worldwide. Jupiter-Venus is seen in the warm, almost endearing embrace of the encyclical by the global climate justice and environmental movements (*The Guardian* 2015), along with scientists (Capra 2015) as well as the Catholic faithful (Boff 2015). Jupiter-Saturn was also evident in the backlash from political and economic elites such as Republican presidential candidate Rick Santorum (MSBNC 2015) and those wanting to continue with neoliberal carbon markets (New York Times 2015).

Neptune is very prominent in the spiritual message and messenger, which also included other religious and indigenous perspectives. Neptune can also be seen in the prominent religious institutional authority figure, i.e. Pope (Neptune-Saturn-Jupiter). This moral message on climate change, and environmental and social justice also appears in the face of the Catholic Church's own shadow of paedophile sexual abuse scandals and other controversial positions on contraceptives and equal (gay) marriage.

The strong Saturn is also very prominent in the older or mature man (Pope Francis), with an older ritual-style dress code, representing the well-established religious institution (Catholic church) that still upholds the older traditions of patriarchy and hierarchy. The message of the encyclical (i.e. an integral ecology approach) was first mentioned in the 1990s by Boff and Berry during the Uranus-Neptune alignment. If one compares the

messages or discourses discussed under the green economy since the Uranus-Pluto alignment (2007-2020), one notices some contrasts. The shift away from the solar male hero (i.e. Pope), the mono institution (whether religious or mono nation-state governance or mono global neoliberal market) to the multiplicity of new initiatives and alternatives found in local place-based communities (as seen in the green revolution discourse), particularly in the second wave of urbanisation taking place in developing country contexts. An additional Saturn-Neptune element is the ontological monism of the first axial era compared to the ontological pluralism of an emerging second axial era. Jupiter adds the expansive, i.e. monism to pluralism, Neptune the numinous, whilst Saturn grounds this (e.g. as seen in call to uphold the rights of mother earth). The emergence of archetypal cosmology in 2008 represents another shift, i.e. from integral ecology (Uranus-Neptune of the 1990s) to archetypal cosmology (Uranus-Pluto 2007-2020). From the perspective of this emerging field of archetypal cosmology one can see the emergence of *archetypal earth communities* that are more pluralistic, multivalent, multi-centric, improvisatory, incarnational, contextual, dynamic and indeterminate as well as the co-creativity of human life and sustainability. This point will be elaborated on in the final chapter on rethinking sustainability.

8.3.2 Parallels between integral ecology and archetypal astrology

The explicit integral ecology approaches share the following parallels with archetypal astrology:

- i. Differentiation (Swimme & Berry 1992), environmental (Hathaway & Boff 2009), cosmic-metaphysical (Tarnas 2012);
- ii. Autopoiesis (Swimme & Berry 1992), deep ecology (Hathaway & Boff 2009), psychic-psychoid; mythic-imaginal (Tarnas 2012); and
- iii. Communion (Swimme & Berry 1992), social ecology (Hathaway & Boff 2009), participatory (Tarnas 2012).

An integral ecological approach highlights what Tarnas (2012) refers to as the *multidimensional* characteristic of archetypes in that they are simultaneously cosmic-

metaphysical, psychic and mythic-imaginal. This includes both the exteriority (i.e. expanding and evolving diversity and complexity and differentiation) and interiority (mental, spiritual, conscious and unconscious) elements simultaneously. The multidimensional archetype characteristic is further seen in Sheldrake's (2012) concept of morphogenetic fields, and the principles found in systems thinking and complexity.

The communion (of all beings/subjects) or relational aspects described by Swimme and Berry (1992) correlate with Hathaway and Boff's (2009) social ecology (democracy, politics, justice, violence and socio-economic factors) and what Tarnas sees as the *participatory* characteristic of archetypes. The synchronistic correlations between planetary alignments and human experience include conscious (and unconscious) participation. It is the broader understanding of a participatory community that includes archetypal co-creativity of cosmos and psyche in a non-dualistic manner for world, self and life creation.

Hathaway and Boff (2009:353-359) ground their integral ecology vision in the local community bioregional model that simultaneously encompasses larger systemic units, i.e. larger interregional, national and international levels. A synthesis of this understanding of the bioregional model from integral ecology, together with archetypal cosmology, gives rise to emergent archetypal earth communities. This will be elaborated on in the final chapter on rethinking sustainability.

8.4 CONCLUSION

This Chapter provided the current cosmological context in which we find ourselves in the 21st century as we now have insights from physics, astronomy, chemistry, biology, anthropology and history to tell the epic evolutionary and expanding story of the journey of our universe (Table 8.1) as it unfolds according to the cosmogenetic principles of 'differentiation, subjectivity and communion'.

Many of these new emerging approaches speak either explicitly or implicitly of an integral ecology. This integral ecological discourse lends itself to a speculative ecology and philosophy. Archetypal astrology (Tarnas 2012) shares parallels with integral ecology as seen in the shared understanding in the works of Swimme and Berry (1992) and Hathaway and Boff (2009) on i) differentiation, environmental ecology, the cosmic-metaphysical; ii) autopoiesis, deep ecology, the psychic, the mythical-imaginal; and iii) communion, social ecology, participatory dimensions. This was further elaborated on in the analysis of the recent integral ecological encyclical from Pope Francis. Integral ecology, as it bridges the dualism of science and spirituality, sets us free from the scientific priesthood of historical materialism. Through the archetypal analysis of integral ecology, we began to see aspects of an archetypal ecology. In addition, a synthesis of the bioregional model from integral ecology with archetypal cosmology pointed to the emergence of archetypal earth communities. Archetypal cosmology bridges multiple fields and approaches, including both archetypal astrology and integral ecology – this idea is further elaborated on in the next Chapter.

CHAPTER 9: AN EMERGING NEW COSMOLOGY: ARCHETYPAL COSMOLOGY

9.1 INTRODUCTION

Enfolded in the 13.7 billion year epic cosmic journey discussed in Chapter Eight we find the journey of the Western of mind. Cultural historian Richard Tarnas traces this journey in his book *Passion of the Western Mind: Understanding the ideas that have shaped our worldview* (1991). This narrative highlights Western thought from its traditional or primal roots, through the classical, axial, modern and post-modern eras. This journey of the Western mind is told briefly with the use of figure 9.1 and table 9.1 below.

9.1.1 Birth of archetypal cosmology

The work of Swimme – highlighted in the previous Chapter in his collaborative work with the late Thomas Berry and their ideas on cosmogenetic principles (diversity, interiority and communion) – parallels and complements the ideas of Tarnas on cosmic archetypes evident in astrology. Together they teach the Philosophy, Cosmology, Consciousness (PCC) programme at the California Institute for Integral Studies (CIIS) and represent the two extremes and orientations of the inner psyche and the outer cosmos. Both Swimme and Tarnas have been influenced by the ideas of Alfred North Whitehead and Teilhard de Chardin. The term ‘archetypal cosmology’ began to be used as a more comprehensive term bridging the different perspectives, the multiple disciplines and particularly the integral ecology of Swimme and the archetypal astrology of Tarnas (2011).

In 2008 *Archai: Journal of Archetypal Cosmology* published its first issue. The term ‘archetypal cosmology’ (Le Grice’s suggestion for the journal) represented the emerging academic field, with archetypal astrology and the study of planetary correlations in psychology, history, culture and biography as the empirical foundation of a wider, multidisciplinary inquiry into their philosophical implications and cosmological context. This also led to the recent founding of the Institute for Archetypal Cosmology in San

Francisco (2011).

This Chapter considers some of the basic characteristics of archetypes. A more detailed explanation of planetary archetypes is available in Tarnas's earlier writings (1987, 2006).

9.1.2 Preliminary introduction to archetypal astrology

Archetypal astrology recognises an underlying framework of archetypal cosmic meanings within which the evolution of worldviews and consciousness take place (Le Grice 2011). Archetypal astrology thus has the potential to bring back to life a more spiritually meaningful worldview in which psyche and cosmos, mind and nature, are a mirror image of a more pervasive evolutionary teleological and metaphysically ordering of all life (Le Grice 2011).

Our current scientific cosmology leaves us with a very soulless, meaningless, un-enchanted view of the world. Mis-enchantment, or a surrogate cosmology of technoscience, capitalism, consumption and consumerism, has filled the vacuum for our modern industrialised civilisation (Hathaway & Boff 2009; Latour 1991, 2013). Similar to insights in integral ecology – whether explicitly as in the works of Boff (1995) and Swimme and Berry (1992), or implicitly as in the works of Morin (2007) and Latour (1991, 2004, 2013) – Richard Tarnas's (2006, 2012) work in archetypal astrology considers the re-enchantment of the cosmos. Tarnas (2001:25), influenced by depth psychology and astrology, suggests that not only the human psyche but also the entire cosmos may be archetypal and mythically informed, embodying a moral and aesthetic imagination. Researchers and scholars in the late 20th century documented the extraordinary planetary correlations with patterns of human experience (Tarnas 2006). Soon after Tarnas published his book, *Cosmos and Psyche* (2006), it was awarded Book of the Year prize from the Scientific and Medical Network in the UK, an international association of new paradigm scientists and scholars, making it the first book on astrology in the Network's collection and public lecture series (Tarnas 2011). (This network is comprised of current and former well-known scholars such as Ervin Laszlo, David Lorimer, Rupert Sheldrake, David Bohm, Ilya Prigogine, Fritjof Capra, E.F.

Schumacher). Astrology provides a unique interpretation of human experience aligned with complex archetypal interactions, mysteries and patterning of the entire universe.

Tarnas (2011:68) sees the dialogue between cosmology and psychology as important, with astrology as the meeting point. Within the Philosophy, Cosmology and Consciousness (PCC) programme in which he and Swimme teach, archetypal cosmology began to be used to bridge their multiple disciplines.

9.1.2.1 Nature of archetypes

Plato was the first person to articulate the word ‘archetype’, as he saw archetypes as the essential structures of reality. The philosophical vision of the universe at that time was that it was alive and informed by transcendental archetypal principles. A sovereign divine intelligence was seen as ordering the complex celestial movements in which human beings participated in the ancient idea of an *anima mundi*. Earlier roots included the rituals found in the mystery religions, with the cosmos as divine revelation, and Pythagoras’ mathematical and numinous unitive ordering of the universe (Tarnas 2011:67).

Jung (1875-1961), with insights from depth psychology, understood archetypes as the *essential structures of the human psyche*; as Tarnas (2011:67) points out, this represented the metaphysical and cosmological evolutionary shift in the Western worldview as a result of the Copernican Revolution, which located archetypal meaning initially in the cosmos, to now being exclusively located within the human psyche. What Jung (1875-1961) called the collective unconscious, Tarnas (2011:67) sees as being ultimately embedded within the ensouled cosmos, i.e. the various aspects demonstrate archetypal wave forms that enter into the individual or collective psychic field and interact with the larger complex whole of archetypal dynamics cumulatively operative in the field. The specific circumstances and creative responses of individuals and communities then shape and express these in concrete events and experiences.

9.1.2.2 Determinism versus free will

Archetypes are not to be understood in a linear cause and effect or deterministic mechanistic fashion. Rather, the extent of consciousness of the archetypes, the greater the sense of autonomy and self-awareness and response is possible, i.e. being conscious of the unconscious (Tarnas 1987, 2012).

9.1.2.3 Nature of astrological causal mechanism and why it works

According to Tarnas (1987, 2006, 2012), the vast and complex coincidences between planetary positions and human existence are too creative and aesthetically subtle to be explained by physical factors alone. He also believes that the universe consists of a holistic patterning and that the positions of the planets reveal the cosmic state of the archetypal impulses at that time. Human experience is thus viewed as the meaningful correspondence between and with planetary alignments. Thus one can speak of an archetype as ‘influencing’ or ‘governing’ experience.

To answer the question of why a meaningful correspondence between planetary alignments and human experience exists, Tarnas (1987, 2006, 2012) suggests a kind of intrinsic aesthetic splendour in the universe might be at play, or it may be simply so that we can better understand ourselves and our world, rediscover our deep connection to the cosmos, and be more complete human beings.

9.2 THE JOURNEY OF THE WESTERN MIND

This section considers the ideas that have shaped the Western mind and are predominantly taken from Richard Tarnas’s book *Passion of the Western Mind: Understanding the ideas that have shaped our worldview* (1991), with additional insights from Hathaway and Boff’s book *The Tao of Liberation: Exploring the Ecology of Transformation* (2009). Figure 9.1 shows this journey of Western cosmology (Tarnas 2014).

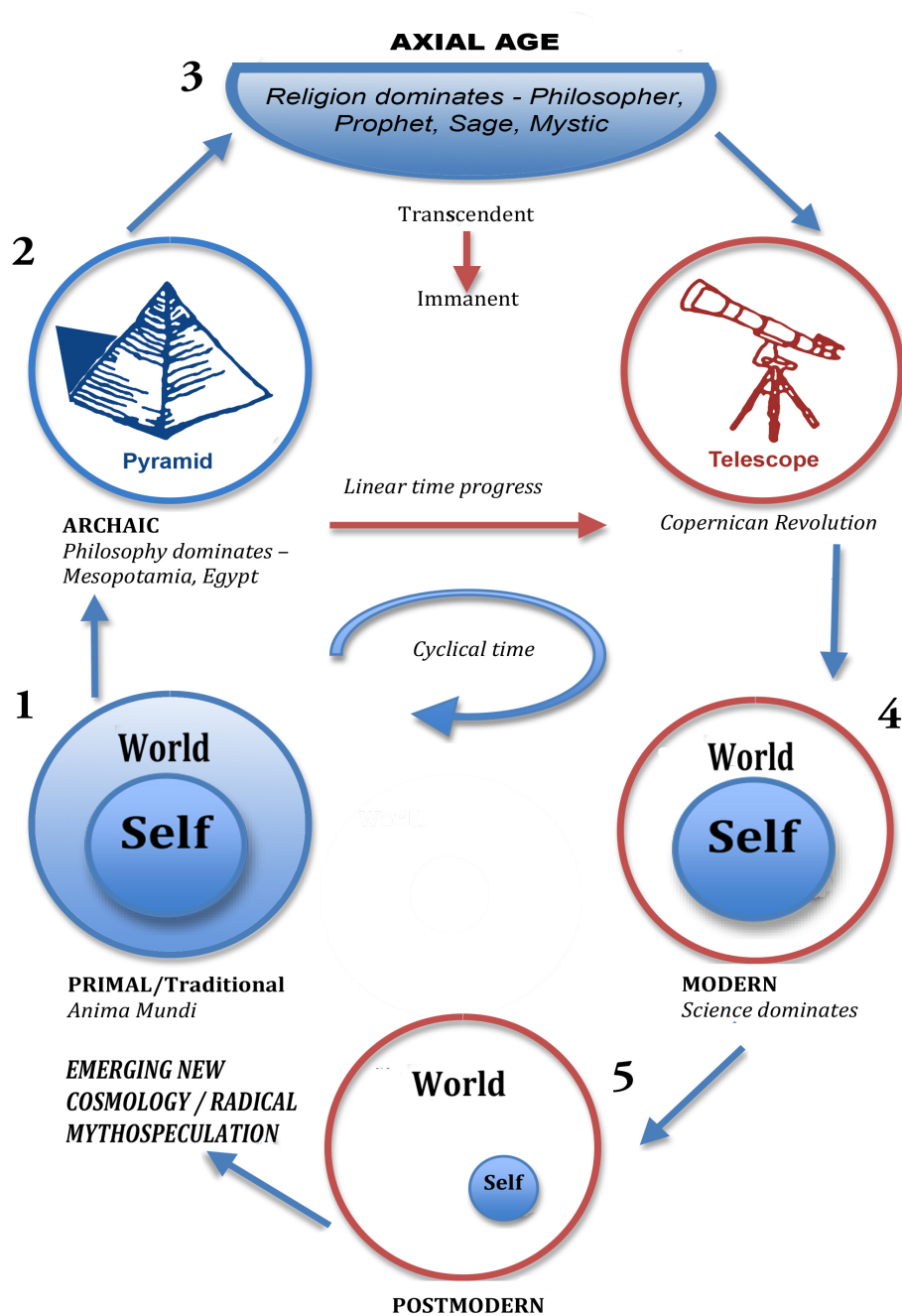


Figure 9.1: Journey of the Western mind

Source: Tarnas (2014)

Table 9.2 further explains figure 9.1 and is a summary of Tarnas' (1991) account of the ideas that have shaped Western cosmology.

Table 9.2: Ideas that have shaped the Western mind (Tarnas 1991) summarised.

1. THE TRADITIONAL OR PRIMAL COSMOLOGY
<p>According to Winter (1996:54 cited in Hathaway & Boff 2009:133, 134), Western cosmology has its roots in a traditional worldview characterised by: a myth of creation implying a purposeful cosmos with humans in harmony and balance with other creatures; the entire cosmos (including nature) is animated and interconnected; the cosmos is viewed as home and the human-nature relationship is one of respect – nature is not subdued, exploited, or even ‘developed’; land is a community of living beings, not ‘natural resources’, and thus cannot be owned, but rather humans belong to the land; kinship, cooperation and reciprocity are societal values rather than competition and personal economic gain; time is cyclical rather than linear, as it follows the seasons and the cycles of birth, death and rebirth; and the purpose of life is harmony, balance and sustainability rather than progress, growth or economic development. This animist vision pervaded the world before the shift to the archaic period.</p>
2. THE CLASSICAL GREEK COSMOLOGY (ARCHAIC PERIOD)
<p>According to Tarnas (1991), the ancient or classical Greek period tended to view the cosmos as consisting of immutable structures or essences or archetypes that underlie concrete reality, giving it form and meaning. Plato’s archetypal forms and ideas focused on abstract concepts of the mind. It can be said that philosophy was born around the sixth century B.C. to address the conflicting myths in the growing civilisation and it replaced the mythic vision with observation and reason, where logic became the dominant means to interpret reality. Pythagoras attempted to synthesise religion (myth) with reason. The sophists emphasised a methodological approach to humans and society, as they believed that knowledge is subjectively known to the human mind rather than being outside of the human mind.</p>

Socrates focused on logic and ethics, and developed reasoning through rigorous dialogue (dialectical form) to arrive at truth. This period saw the co-joining of mythic deities with the human intellect or mind that could know timeless universal truths. Philosophy dominates during this period where the philosophers' main goal was to receive the transcendent ideas via the rational mind. The 'problem of the planet' remained during Plato's time as he tried to discover the eternal behind the temporal. Aristotle shifted Plato's archetypal transcendent reality perspective to an archetypal immanent reality found in concrete objects and thus the classical Greek period left the Western mind with the dual legacy.

The transformation of the classical era around the 4th century B.C. saw science begin to slowly separate from philosophy. The natural sciences contributed various arguments about the nature of the earth and cosmological/astronomical understandings. Astronomy and astrology remained as one profession from the classical through to the Renaissance period. The different worldviews provided different astrological interpretations with the commonality of belief that the planetary movements held intelligible significance for humans.

3. THE MEDIEVAL (AXIAL AGE) COSMOLOGY

Tarnas (1991) states that the Christian worldview contributed to forming the Western mind and still influences both philosophical and scientific evolution today. During this period religion dominated.⁴ The characteristics of the Christian vision and its effect on the Greco-Roman outlook during the late Classical Period through the Middle Ages can

⁴ Tarnas (Tarnas & Swimme 2015) also provides insights into this period on the basis of Robert Bellah's (2011) book, *Religion in Human Evolution: From the Paleolithic to the Axial Age*, where the role of the mystic in India and the sage in China provided the same strong dominant religious dynamics in the transcendent-immanent dualism as found in the prophet in Israel and the philosopher in Greece-Rome. Here we find the human vertebrate mind viewing itself as having reached the pinnacle of all the species and then catapulting into the transcendent e.g. 'man as made in the image of God'.

be summed up as follows:

1. An exclusive monotheistic cosmic hierarchy that rejected pagan polytheism but maintained metaphysical archetypal forms;
2. Plato's spirit-matter dualism was upheld. The teaching on original sin ('the fall of man') cut off divinity from immanent nature and emphasized good from evil;
3. The introduction of a 'divination of history' logic (history and theology became fused) that was now linear and no longer cyclical was institutionalised within the church and provided a more static view of history;
4. The Great Mother Goddess of pagan mythology became the Mother Church in Christian teaching;
5. Human analytical observation and understanding of the natural world was replaced by the Christian call for faith, obedience and subordination to God's will;
6. The church and the scriptures as the absolute truth replaced personal human spiritual inquiry into the world for meaning.

The transformation of the medieval mind and Christian worldview was a complex evolution to the modern secular view. Tension arose between the Greek and the Christian view in the realm of reason and faith, and scholasticism helped to usher in the scientific revolution that changed the Western mind and its outlook on the world. Not everyone agreed with philosophical reason and religious faith coexisting, and thought that reason and science must operate outside of theology. Ptolemy's fixed view of the earth with the heaven moving around it saw astronomy and astrology as one and as able to explain the universal laws of nature. The scholastic autonomy that developed from Aristotle's methodology further separated from the church's influence to develop a greater empirical, mechanistic and quantitative view of nature that would soon change understandings of the cosmos and shape the Western mind. For Ockham (1287-1347) universals only existed in the human mind and not in reality, as they were human constructs based on empirical observation. This assertion prepared the ground for the Reformation, the Scientific Revolution and the Enlightenment of the modern era.

4. THE MODERN COSMOLOGY

According to Tarnas (1991), the complex aspects contributing to the modern worldview included:

- i) The *Renaissance* period (14th to 17th century) included four major influential inventions: the magnetic compass that opened opportunities for global travel for European explorers; gunpowder that assisted the transition from feudalism to nationalism; the mechanical clock that ended nature's dominant rhythm and began to regulate how humans related to work, nature and time; the printing press that ended the churches monopoly on learning;
- ii) The *Reformation* (16th century) saw the end of the unity of Western Christendom. Religious scepticism, relativity of religion and the separation of faith and reason of this reform period resulted in a change of the Western mind's apprehension of the natural world. Tensions existed between scientific truths and religious truths, with the modern mind shifting its 'faith to science'. Power shifted from the church as political leaders chose whether their territories followed Catholicism or Protestantism;
- iii) The *Scientific Revolution* was key in shaping the modern Western mind. Copernicus (1473-1543) wanted to solve the old problem of the movement of the planet and put forth a heliocentric view in contrast to the long held geocentric view. The Copernican theory finally separated reason and faith. Kepler's mathematical contributions added to the understanding of the cosmos. Coincidentally, Galileo also looked to the heavens at the same time with his new telescope to provide empirical evidence for the Copernican heliocentric theory. The Western mind was opening up simultaneously to both the vast celestial world and the terrestrial world for the explorers. Copernicus and Galileo shattered the old cosmology, but it was Newton who forged the new cosmology by synthesising the mechanistic philosophy of Descartes, the planetary laws of motion from Kepler and the terrestrial laws of motion from

Galileo, together with his theories on the laws of motion and the universal theory of gravity, to form the Newtonian-Cartesian cosmology.

Philosophy shifted its loyalty from religion to science and acquired a new identity and structure. This philosophical revolution saw Bacon (1561-1626) link global exploration and the discovery of new lands and knowledge with the need for knowledge acquired to be free from any prejudices and thus promoted the use of empirical methods. But it was Descartes (1596-1650) who expounded a mechanistic philosophy when he suggested that the human transcendent mind stands over matter and humans are different to from everything else because of their ability to reason. The mind is the pure realm and emotions are contaminantly part of the body. The soul is mental substance distinct from the body. Truth is known via mathematical knowledge. For Descartes all of reality and everything outside of the mind is mechanical or dead matter, soulless, just complex machines to be manipulated.

These major tenets⁵ of the modern worldview cut astrology cut off from astronomy. Secularism triumphed whilst science and religion remained in tension with different understandings of the cosmos. The shift in science was also from the 'why' to the 'how' that could be measured, which meant the exclusion of teleological and spiritual causes. Some hidden continuities remained: Christian ethical values, man's dominion over nature taken from Genesis, man's linear historical progress or teleological existence, a social utopia replaced the Christian utopia of the 'second coming and kingdom of heaven', and

⁵ The major tenets of the modern worldview include (Tarnas 1991) the following:

1. Science replaced religion in which the world was no longer viewed as created and governed by God but rather now governed and regulated by mathematical and physical laws;
2. The subjective personal human consciousness versus the impersonal objective unconscious world;
3. Theology and scriptural revelation are replaced by human reason and empirical observation;
4. The human mind was given intrinsic qualities and was able to participate in the universe;
5. The scientific method was now the means to discover knowledge of the universe and this was only possible through the human rational and empirical faculties;
6. The shift from a geocentric to a heliocentric worldview resulted in astrology and astronomy being separated. Divine attributes were considered superstitious and primitive, and were excluded from scientific discussion;
7. The scientific method was dominant and the purpose of knowledge was to align nature to man's will.

rational planning replaced hope.

Tarnas (1991) adds that the transformation of the modern era was complex. Copernicus' heliocentric theory displaced man as the centre of the universe, and nature was demystified. In the new sciences human knowledge sees humans separated from nature and confined to the human mind. Philosophy was forced to analyse the mind and its capacities for cognitive achievement. According to Immanuel Kant (1724-1804), all of man's knowledge of the world comes not from his experience, whether simply thinking (pure rationalism) or sensing (pure empiricism), but rather from the simultaneous interpenetration of both that must occur. Kant rejoined the knower to the known. Neither philosophy, nor science, nor religion could now claim priority. Human thought was influenced by multiple factors such as social class, habit, emotion, the unconscious. Henri Bergson (1859-1941), Alfred North Whitehead (1861-1947) and Pierre Teilhard de Chardin (1881-1955) all tried to join the scientific evolutionary understanding with philosophical and religious understandings. Carl Jung (1875-1961), influenced more by Romanticism, identified the collective unconscious and archetypes, and added epistemological insights from depth psychology. This complex transformation shifted into what is known as the post-modern mind or worldview.

5. THE POST-MODERN MIND

Nietzsche's (1844-1900) writings are the earliest representatives of the Post-modern mind and its emerging nihilism. All human knowledge is interpretation via signs and symbols, and without certainty. Truth and reality in science, religion, philosophy are all ambiguous and subjective. The post-modern mind is an unstable mind.

The Copernican paradigm shift in modern astronomy was an epochal shift for the modern worldview. The condition of the subject unconsciously determined the objective world, the human was liberated from the ancient cosmic womb, man was no longer the centre of the universe and the whole of the natural world was seen as disenchanted. Kant highlighted the subjectivity of human knowledge and served as the hinge between the

modern and the post-modern, emphasising that the modern scientific worldview is incomplete. The post-modern predicament lies in its epistemology, i.e. there is only interpretation and no facts. Jung extended the view of Kant and Freud and identified universal archetypes as the complex mythical structures of the collective unconscious. Stanislav Grof (1931-) contributed insights from his multi-level perspective, i.e. the parallels between the trauma of human birth and the infant separation from the unitary consciousness with the mother; and the link with nature that includes participation and involvement, both now severed during the birthing process. Self and the world share the ontological and epistemological separation. James Hillman (1926-2011) emphasised how this fundamental separation is then subjectively structured and objectively projected by the modern mind. According to Tarnas (1991), this post-Copernican double bind is now apparent – the modern mind thinks it has now freed itself of any human-centred projections and interpretations of a mechanistic impersonal cosmos, only to discover that knowledge of the world is a conditioned construct of the human mind that remains selective. The alienated, autonomous individual self can now, once again, be reunited with the origin and fundamental essence of its primordial enchanted being.

Tarnas (1991) concludes this account of the evolution of worldviews by stating that the human mind's relationship to the world is no longer dualistic and separate, but rather participatory. The world's process of self-revelation is via the human mind. The history of the Western mind has been strongly dominated by men, but as Jung prophesied, an epochal shift is taking place in the human psyche towards a sacred marriage of the long dominant, but not alienated male, and the long suppressed, but not ascending, feminine (Tarnas 1991). The *teleos* of the Western mind entails the reconnection with the cosmos in mystery participation and sees that our time is struggling to bring forth something fundamentally new:

Perhaps the end of 'man' himself is at hand. But man is not the goal. Man is something that must be overcome – and fulfilled, in the embrace of the feminine (Tarnas 1991:26).

9.3 SOME BASIC CHARACTERISTICS OF ARCHETYPES

Tarnas's book *Cosmos and Psyche* (2006) is full of examples of meaningful correlations between planetary alignments and human experience, and in the list of the characteristics of the archetypes he attempts to write up the dynamics of the phenomenon in telegraphic form. These characteristics formed the conceptual foundation he built on when writing the book *Cosmos and Psyche* (Tarnas 2006:2012). He points out that the continuing problem of contemporary astrological theory and practice is that these characteristics have not been consciously developed and integrated in the astrological tradition. The following sections (9.3.1 to 9.3.7) present a list of archetypal manifestations as expressed in astrological correlations and give an insight into the archetypal dynamics and complex causality in astrology (Tarnas 2012:39-60):

9.3.1 Multidimensional

Archetypes are autonomous patterns, universal principles or forms and essences of meaning expressed in multiple dimensions simultaneously. They can be mythic-imaginal such as in ancient Greek (Homeric) myth with the *gods as archetypes* and mystic religious rituals. Here the *cosmos is seen as revelation*. They can also be cosmic-metaphysical such as Platonic understandings of archetypes as the *essential structures of reality*. They can also be psychic-psychoid in the Jungian archetypal sense of *essential structures of the human psyche*.

Archetypes manifest autonomous patterning and meanings that cannot be localised in a singular oriented manner, e.g. both immanent and transcendental, both cosmic and psychic, both ontological (essences) and epistemological (categories), both personified (deities) and impersonal (abstract principles), and both individual and collective.

The multidimensional essence of archetypes can thus also be Pythagorean (geometric, arithmetic, formal); Darwinian (biological instincts); Sheldrakean (morphogenetic fields);

Grofian (transpersonal, perinatal, cosmic); Wittgensteinian (family resemblances), for example.

9.3.2 Multivalent

The same archetype expresses itself in multiple ways simultaneously with multiple meanings. An example of this can be seen from the Promethean creative genius that occurred during the major Copernican revolutionaries' Sun-Uranus aspects. Here we saw simultaneously the scientific breakthrough; heroic individualism, as well as the liberation of the Sun into cosmic centrality. Another example comes from the multiple expressions of the Uranus-Pluto alignment in the 1960s that saw the synchronic expressions in the civil rights movement (in the USA and South Africa), the feminist movement, the ecology movement, scientific breakthroughs, early tragic deaths of key figures, anti-colonial liberation movements.

9.3.3 Indeterminate

The dynamic multivalence of archetypes and their complexly multi-causal nature make archetypal manifestations indeterminate. The inter-relational complexity creates the uncertainty and thus archetypal manifestations have the potential or tendency towards manifesting certain behaviours rather than being concretely predictable. There are many contributing factors (context, participation) and these add further to unpredictability.

9.3.4 Contextual

Archetypes are informed by and respond to the influence of non-volitional and co-determined circumstances – socio-political-economic, historical, ecological, collective, local, global and unconscious psychological. They are the concrete condition and circumstance within which the archetype is grounded, the universal is linked to the particular matter, which in turn is a complex representation or manifestation of the archetypal complex.

9.3.5 Participatory

Archetypes respond to and are shaped by the quality of the human being's participatory consciousness or unconsciousness co-creation, intention, disposition and aspiration. In this way the human and cosmos, psyche and animated earth participate in a non-dual relationship for self-creation and world-creation.

9.3.6 Creative

This is more than the co-creativity of human participation with and through the archetype to include the spontaneous creative impulse and capacity of and by the archetypal impulse in the *anima mundi*. This speaks to the spontaneous novelty, endless improvisatory inventiveness and unpredictability of bringing forth reality expressed in order and disorder, creativity and habit. Self-organisation is enabled through the archetypal ability to pattern into existence an aesthetic-metaphoric-formal quality of coherence as seen in the spiral in the galaxy, or the tornado in the atmosphere.

9.3.7 Dynamic

Archetypes are not passive, inert forms. They are active, impelling, constellating and actualising phenomena providing formal patterns and dynamic sources of energy in creative, innovative, multidimensional, multivalent and participatory contexts whilst remaining indeterminate in themselves.

In summary, human beings participate in a complex way within the archetypal characteristics mentioned above that are impelled by 'an indeterminate and dynamic spiritual power of inexhaustible creativity' (Ferrer cited in Tarnas 2012:57). The shift is from the objectivist top-down transcendent/spiritual archetypal reality governing human experience or astrological correlations to the radically more *pluralistic, multivalent, multi-centric, improvisatory, incarnational co-creativity* of human life (Tarnas 2012:58). The Many (individuals, species, forms of life, archetypes and complexes and cycles) thus has ontological value instead of the top-down transcendent One in a complex dialogue and recursive dialectic with complex teleology and holistic causality (Tarnas 2012:58). This community dialogue of the Many takes place in an I-Thou relationship of self and

other, or part and whole in what Tarnas (2012:58) calls ‘*hieros gamos*’ (sacred marriage) of human and divine.

9.4 INTERPRETATION OF THE GLOBAL FINANCIAL CRISIS 2007-2011

The complex archetypal interactions provide an interpretation of the recent global financial crisis. The Uranus-Pluto, Saturn-Uranus and Saturn-Pluto transits converged to form the Saturn-Uranus-Pluto T-square in 2008-2011 (approximately 2007-2012 for the wider penumbral orb). Tarnas (2010:180) summarised the meaning of this T-square as:

Volcanically intense evolutionary pressures to radically reconfigure existing life structures – at every level, individual and civilisational, internal and external, relational and ecological, philosophical, political, social, economic, industrial, agricultural, technological.

The convergence of the accumulative historical and ecological developments, together with the complex mutual interaction between Saturn, Uranus and Pluto archetypes in the T-square, culminated in one of the most challenging and energetically charged periods of our time.

This rare Saturn-Uranus-Pluto alignment last occurred in 1929-33 with the concurrent Wall Street stock market crash, the onset of the Great Depression, global structural collapse at the political and economic levels, protests, the strengthening of fascist movements and repressive totalitarian governments (Tarnas 2010:181). The only other time this rare alignment occurred was in 1873-76 in which there was also a global financial crisis and stock market collapse followed by the Long Depression (Tarnas 2010:182-3). We have already seen the similarities to this rare T-square in the recent global financial crash (Saturn-Uranus) and the austerity (Saturn-Pluto) measures introduced in debt-ridden countries such as Greece, Spain, Ireland, Italy and Portugal resulting in the rising protests (Tarnas 2010; Le Grice et al. 2012).

9.5 AN ARCHETYPAL ASTROLOGICAL EYE ON THE VARIOUS GREEN ECONOMY DISCOURSES

As previously mentioned, Tarnas (1987, 2006) describes the ten planetary archetypes in more detail. These interpenetrate in complex ways as described in the characteristics above and as demonstrated throughout the various discourses on the green economy (Chapters Two through Eight). Tarnas places all the previously mentioned transits – Uranus-Pluto square, the Saturn and Jupiter series – within the century-long Neptune-Pluto sextile that is set to end at the middle of the 21st century. This is the archetypal dynamic interaction between the spiritual and imaginal of Neptune with the revolutionary base elemental of Pluto with the Uranus-Pluto T-square (2007-2020) as the definitive participatory and transformative moment in human evolution or telos. Archetypal astrology provides us with this meaning and telos in the individual and collective sense in which we all participate, consciously or unconsciously.

Clearly some form of creative intelligence informs the whole, yet just as clearly the human future is radically uncertain, contingent both on human choices and on large forces beyond our power, beyond our awareness. An old age of the world is passing away, and a new one is struggling to be born (Tarnas 2010:197).

9.6 CONCLUSION

Figure 9.1 and table 9.2 assisted in exploring the ideas that have shaped the Western mind and evolving understandings of archetypes. These archetypal characteristics were summarised in notation form and provided the foundation for the archetypal analysis on the various discourses in Chapters Two to Eight. Briefly, this saw human beings participate in a complex way in the archetypal characteristics mentioned above impelled by ‘an *indeterminate* and *dynamic* spiritual power of inexhaustible *creativity*’. The shift is from the objectivist top-down transcendent/spiritual archetypal reality governing human experience or astrological correlations to the radically more *pluralistic, multivalent, multi-centric, improvisatory, incarnational co-creativity* of human life. This analysis also provided an additional interpretation on the financial crisis for consideration.

Chapters Two to Eight demonstrated and confirmed the research hypothesis outlined in the introductory chapter that stated ‘Humans and the cosmos exist in a non-dual, mutually and consciously participating relationship’. Chapters Eight and Nine have also accomplished the second research objective that sought ‘to address the modern dichotomy of a living purposeful evolving self within a dead, random mechanistic universe paving the way for a broader worldview inspired towards achieving a greater inclusion and engagement in the shift towards sustainability’. Chapters Eight and Nine have provided fresh insights from the emerging new cosmology and the discourse on integral ecology, as well as the emerging new field of archetypal cosmology. They have provided both a critique of the underlying assumptions in the current discourses on the green economy as well as providing an emerging new philosophical, cosmological and consciousness by which one can rethink sustainability issues. Within this new emerging archetypal cosmology one can now move on to the final chapter and begin rethinking sustainability and accomplish the third research objective, i.e. to provide an alternative vision and discourse on the green economy and sustainability.

CHAPTER 10: RETHINKING SUSTAINABILITY

10.1 INTRODUCTION

The main contributions presented by the various green economy discourses as a result of their interpretation of, and response to, the recent global financial crisis, together with their limitations, provided the rationale for rethinking sustainability. Insights from the new emerging cosmology and the discourse on integral ecology (both the implicit and explicit approaches) provided an additional critique of the various green economy discourses. The synthesis of integral ecology and archetypal astrology provided glimpses of an emerging archetypal ecology, emerging archetypal earth communities and the way that sustainability is being reconsidered. The new emerging field of archetypal cosmology began to be used to bridge the multiple disciplines and contributed to a broader and deeper analysis and understanding of the various discourses on the green economy, thus paving the way for rethinking sustainability.

10.2 THE MAIN CONTRIBUTIONS FROM THE VARIOUS DISCOURSES ON THE GREEN ECONOMY

The green revolution discourse, perhaps the most innovative and inclusive of the various worldviews (indigenous, religious, scientific and new emerging cosmology), with local communities at the forefront of struggles, provided many alternative visions as part of their broader critique of neoliberalism. In the global north these ideas clustered around the notions of ‘degrowth’ and ‘the commons’, and in the global south in terms of ‘alternatives to development’ (post-extractivism, rights of nature, *buen vivir*). This discourse had a strong focus on (re)localisation, radical, revolutionary change at the systemic level, with movement building or ‘ecology from below’ as the key strategy to accomplish the setting up of alternative utopias. Many of these communities are situated on the margins and are creating alternatives outside of the state-market system and structures, and in a sense they represent the new evolving habit that through which morphic resonance is likely to become the new norm.

The green transformation discourse made the link between the financial and environmental crisis with a strong emphasis placed on new opportunities in the green investment sector to provide green jobs and more efficient green (renewable) energy, but with mixed understanding on the nature of growth and the role of the nation-state and the private sector.

The green transformation discourse dissolved into the more dominant green growth discourse promoted by UNEP, the World Bank, Rio+20 Earth Summit and several nations-states that saw the inclusion of 'nature as capital' (i.e. financialisation of nature).

The green resilience discourse encompassed various approaches and programmes with diverse understandings on resilience and strong links to climate change-related issues. This discourse was more of a reactionary response to the financial crisis, compared to the green revolution or green transformation discourse.

The developmentalism discourse was seen to be located predominantly in developing countries with their critique of neoliberalism and the financial crisis. This highlighted the 21st-century 'developmentalism' discourse as policy, process, strategy and institution with an assimilated green economy. The shift was towards a state-centric commodity consensus or neo-extractivism.

The just transition discourse took the long-wave analysis approach to interpret the financial crisis with a focus on the developmental state, the role of finance and new technology markets to transition towards sustainability. This approach is found predominantly in academia and taken up by UNEP in the IRP reports, and it believes that it is possible to decouple economic growth from environmental degradation. This was also the only approach that had a strong focus on material resource flows within the urban space.

10.3 THE KEY LIMITATIONS IDENTIFIED IN THE VARIOUS DISCOURSES ON THE GREEN ECONOMY

The contributions made by the various discourses were also analysed in terms of their limitations and which thus also provided the rationale for the new emerging cosmology and an archetypal cosmology.

For the green revolution the various disciplines (environmental economics, social ecology) that inform this perspective were shown to be reductionist and still operating within the dualistic scientific (historical) materialistic worldview. This outworking is evidenced in the material (re)productivist emphasis on the human-nature relationship. In addition, the political economy and the understandings of power (power over or power from below to effect change) were highlighted as still operating within a more mechanistic science of linear cause and effect, which a systems thinking or new cosmology perspective challenges. Indigenous Latin American concepts (e.g. *buen vivir*, Pacha Mama) needed dynamic equivalents in other geographical settings, whilst the Western cosmology, still operating within a disenchanted worldview, needed re-enchantment.

For the green transformation discourse the myth of progress must be set against the backdrop of the growing ecological decline in biodiversity and social inequality, and the increasing alternatives presented by the green revolution discourse. This transformation discourse did not question the market-state dichotomy and placed heavy reliance on energy efficiency and new technologies as solutions to the crisis. Organised labour has yet to bring about the necessary socio-economic or political transformation. This discourse was very short lived and soon transformed into the green growth discourse.

The green growth response to the financial crisis was to financialise nature, thereby extending the domination, exploitation and objectification of nature by humans. Social, cultural and political aspects were all subsumed into a one-dimensional economic understanding of the green economy. New market mechanisms and new technology play

a key role in this discourse – all symptomatic of the modern industrial and scientific materialist worldview.

The green resilience discourse had an ill-defined understanding of the meaning of resilience and served multiple political agendas. The result was that the status quo was maintained and the most vulnerable (impoverished communities and ecosystems) remained excluded and exploited, with little real change towards becoming more resilient.

The developmentalism discourse was a shift from the Washington Consensus to the commodity consensus. Extractivism and neo-extractivism have been legitimated by progressive states. These have all been critiqued by the green revolution's 'alternatives to development' proposals, which emphasised post-extractivism.⁶ Developmentalism, as linked to growth and progress, still finds itself within the problematic dominant reductionist worldview and was also critiqued by integral ecology.

The just transitions discourse faced multiple critiques. Decoupling and the IRP reports used a flawed technical Environmental Kuznets Curve (EKC). The problem of a rebound effect or Jevon's Paradox⁷ was highlighted. Material eco-feminists critiqued it as upholding a productivist engineering approach similar to ecological modernisation. Additional challenges included funding and technology transfer difficulties and a lack of support institutions or mechanisms in place to enable the transition. Social actors and their networks were excluded. The logic of modernism and developmentalism went unquestioned in these IRP reports, and the reports lacked an integrated ecological framework.

⁶ These alternatives included integrated top-down policy proposals such as quotas and taxes on raw materials, exports, price correction, the removal of perverse subsidies, diversification, financial regulation and new financial institutions, state and market regulation anchored in civil society, broadening the revenue base for social programmes, regional autonomy from globalisation, and the embracing of indigenous knowledge; they also included bottom-up social movements and communities' proposals and understanding of *buen vivir* and the rights of mother earth.

⁷ When a nation sees an increase in its income level, there is a corresponding increase in consumption of natural resources through a more resource-intensive lifestyle.

Furthermore, this approach signalled a techno-democracy or mis-enchantment with technology and finance markets to enable the transition to sustainability. The underlying assumptions made rested on a dis-encharnted, soulless cosmos made possible by mechanistic science. In addition, this discourse is limited to modernism's progressive development and extractivist perspective that focuses on a surface structural transformational change and not on an accompanying underlying root worldview change. The just transitions theoretical foundation remains anthropocentric and dualistic, as it did not integrate the human story within the epic 13.7 billion year story of the universe. Deep earth history and the story of the universe (otherwise referred to as integral ecology) provide the cosmological context, and together with the journey/story of the Western mind, serve as the corrective to this approach.

10.4 MAIN CONTRIBUTIONS FROM THE EMERGING NEW COSMOLOGY AND THE DISCOURSE ON INTEGRAL ECOLOGY

A new cosmology has been emerging across multiple fields such as quantum physics, new biology, complexity or systems theory, integral ecology, anthropology, philosophy, depth psychology and archetypal astrology. The epic evolutionary journey of the universe provides the current cosmological context.

Integral ecology – both the explicit and implicit approaches – pointed to a speculative ecology and philosophy. Integral ecology was also seen to bridge and transform the current dualism between science and religion. By implication scientific and historical materialism were decentred so that physics no longer dominated in the natural sciences and economics no longer dominated the social sciences, and spirituality was again placed or repositioned within the whole. The many parallels between the integral ecology works of Swimme and Berry (1992) and Hathaway and Boff (2009) and archetypal astrology (Tarnas 2012) included:

- i. Differentiation (Swimme & Berry 1992), environmental ecology (Hathaway & Boff 2009), cosmic-metaphysical (Tarnas 2012);

- ii. Autopoesis (Swimme & Berry 1992), deep ecology (Hathaway & Boff 2009), psychic, mythical-imaginal (Tarnas 2012); and
- iii. Communion (Swimme & Berry 1992), social ecology (Hathaway & Boff 2009), participatory (Tarnas 2012).

10.5 ARCHETYPAL COSMOLOGICAL CONTRIBUTIONS TO THE VARIOUS GREEN ECONOMY DISCOURSES

An archetypal astrological analysis on the various green economy discourses highlighted some archetypal characteristics.

10.5.1 Green revolution

An archetypal astrological analysis on the green revolution discourse provided examples of diachronic and synchronic patterns of correlation between Uranus-Pluto planetary alignments and collective human experience and consciousness as found in previous revolutionary periods such as the French Revolution period (1787-1798) and the tumultuous cultural revolutionary period of 1960-1972 as well as the current Uranus-Pluto 2007-2020 alignment. Archetypes were shown to be archetypally predictive as opposed to concretely predictive. The *multidimensional* characteristic of archetypes included simultaneously both i) the ontological (essences) and the epistemological (categories), as well as ii) the immanent and the transcendent. The green revolution discourse had a focus on a more participatory inclusion of marginalised communities and extending rights to mother earth. Archetypal cosmology expands this *participatory* inter- and trans-disciplinary knowledge production to include the non-dual, reflective and responsive archetypal manifestations and archetypes. This *participatory* characteristic of archetypes was further understood as being *dynamic and indeterminative*. Archetypal manifestations are inflected and influenced by *contextual factors* – socio-political-economic, biographical, evolutionary, ecological, biological and collective. The ontological shift found in both the green revolution discourse and archetypal cosmology has implications for governance (i.e. mono nation-state), economics (mono neoliberal markets) and scientific (historical) materialism. These are discussed further below.

10.5.2 Green transformation

This discourse specifically linked the recent global financial crisis with the 1929-1933 financial crisis and, inspired by Roosevelt's New Deal, began to speak of a GND. The various global financial crises and economic hardship periods all coincided with the Saturn-Uranus-Pluto T-square (Tarnas 2006): 1873-1876 (the Long depression), 1929-1933 (the Great depression), and the recent financial collapse (2008-2011). Archetypal astrology provided examples of both diachronic and synchronic patterns of archetypal planetary alignments in human history, evincing a mysterious correlation patterning that is not causal or deterministic, as found in mechanistic science, but rather *co-creating* and *participatory* within an ensouled cosmos. The *contextual* archetypal characteristics – socio-political-economic, biographical, evolutionary, ecological, biological, collective – influence and inflect archetypal manifestations and responses. The new emerging cosmology also showed how the basic assumptions of an outdated cosmology and science create a 'fringe' science, thereby excluding real alternative solutions for new technology, economic and social benefit.

10.5.3 Green growth

Archetypal cosmology provided an additional analysis and explanation as to the *multivalent* meanings evident in the various green economy discourses. The example from the Jupiter archetype demonstrated this *multivalence* when inflected either with Saturn, Uranus or Neptune.

10.5.3.1 Jupiter

The Jupiter archetype can be seen as representing expansiveness, magnitude, success, abundance, optimism, or negatively, excess, extravagance, inflation, self-indulgence, and overconfidence.

10.5.3.2 Jupiter-Saturn

Jupiter-Saturn: From February 2011 to March 2012 the focus of this discourse shifted to sluggish economic growth, wealth distribution, cutting wasteful spending, financial regulation. It is seen that Jupiter archetype associated with free market forces, progress,

opportunity, growth and development and excess in stark contrast to the Saturnian aspects of regulation, laws, negative growth, controlling, structure and ordering. The pragmatic philosophy of the Jupiter-Saturn complex was seen in the discussions on implementing austerity or stimulating growth and spending or cutting back.

10.5.3.3 Jupiter-Neptune

Jupiter-Neptune: *Global Green New Deal Report* (UNEP 2009) reflects a tone of more optimistic opportunity for investment in green sectors.

10.5.3.4 Jupiter-Uranus

Jupiter-Uranus: In October 2010 the Jupiter-Uranus entry is observed with the release of *The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature report* (TEEB 2010) that initiated the financialisation of ecosystem services for a huge speculative market.

10.5.3.5 Uranus-Pluto-Jupiter-Saturn

Uranus-Pluto-Jupiter-Saturn: By 2011 the Jupiter-Uranus and Jupiter-Saturn influence could be further be seen in the *Towards a Green Economy Report* (UNEP 2011a), the *Towards Green Growth Report* (OECD 2011), and later in 2012 at the Rio+20 Earth Summit, the World Bank and nation-states were all talking about the green growth discourse to include natural capital accounting – the shadow of the Jupiter archetype associated with greed, exploitation and expansion that was now expanded to include the financialisation of nature, new markets, new technology (Uranus), inclusive green growth, managing the economic (Saturn), invisibility of nature (Pluto) and control by Big Energy (Exxon, BP, Chevron, Shell, Total); Big Pharma (Roche, Merck); Big Food and Agri-business (Unilever, Cargill, DuPont, Monsanto, Bunge, Procter and Gamble); Big Chemicals (Dow, DuPont, BASF); and the US military (Jupiter-Saturn).

The complex dialogical and recursive dialectic in the *ontological shift* in integral ecology and archetypal cosmology has implications for our understanding of economics (i.e. neoliberal, socialist), the polis (i.e. city and/or nation-state governance), and socio-

cultural aspects. The ontological shift implies that we can no longer objectify and financialise nature as seen in the green growth discourse.

In addition, an archetypal cosmological perspective views the cosmos as no longer dead, but rather as ensouled, enchanted and participatory in essence. Memory, intelligence and consciousness are not confined to the human brain or psyche, but rather permeate the entire living cosmos. Epistemology is thus extended to include the entire universe as both a source and revealer of knowledge as well as teacher or guide. This is very much the same position found in traditional or indigenous cosmologies, but observed now is how the Western mind has journeyed the full circle (beginning with the traditional through the classical, axial, modern and post-modern) and is moving towards a second axial age or radical mythospeculation (cf. Figure 9.1 in Chapter Nine) and the gulf that once separated worldviews can now be bridged and once again harmonised.

10.5.4 Green resilience

The *multivalent* archetypal characteristics under the Saturn-Uranus opposition (2007-2012) were seen in the green resilience discourse. These included the strong links to climate change (air, oxygen, carbon) and atmospheric carbon budget sharing; biodynamic and agro-ecological practices versus industrial farming; a demographic focus and shift to cities in developing countries; new renewable technologies and infrastructures (Uranus) – whilst many resilient approaches continue within the neoliberal framework of the old economic paradigm (Saturn). The new cosmology perspective will show how the punctuated emergence of archetypal earth communities can be considered as resilient.

10.5.5 Developmentalism

Developmentalism was very much a nation-state-centric discourse. The new emerging cosmological works advance a teleological shift of identity, meaning and purpose, where identity no longer resides in the nation-state (or in gender, class, religion, homo economicus), but rather as an integral ecological or archetypal being in communion with

the broader earth community of equal subjects. Meaning is not just found in the human, but incorporates the entire cosmos in which a common destiny is shared. We are the earth reflecting upon itself. Archetypes thus far were shown to be *multidimensional, multivalent, dynamic, indeterminate, participatory, contextual, dynamic and creative*.

10.5.6 Just transitions

The *multidimensional* archetypal characteristic was evident in the individual brilliance of technological advancement with the simultaneous collective consciousness over several epochs, i.e. in the shifts from the hunter-gatherer to the agricultural to the industrial and technological spheres.

The archetypal characteristic of *multivalence* was seen in the diachronic and synchronic technological innovations and breakthroughs, the demographic spatial and scale shift, the focus on the youth, the highlighting of the ecological crisis and a focus on nuclear energy (these all occurred under the Uranus-Pluto alignments).

Based on their *multidimensional* and *multivalent* characteristics, archetypes were thus *indeterminate*.

The *contextual* characteristic informed the archetypal manifestation and form, and included the biological, ecological, collective, cultural, epochal and historical.

Skilful co-creative *participation* with archetypes can be enhanced through understanding and owning projections as one becomes more aware of the archetypal influences at work as well as the personal and collective shadow. For example, the Saturn-Pluto hard aspect world transits with the collective to project good versus evil in highly charged dramas, victimisation fantasies, feelings of helplessness in the grip of overwhelming dark and impersonal forces, creating and strengthening barriers and boundaries (Tarnas 2012:52).

The spontaneously *creative* impulse of the archetype itself was also evident – not only in technology but also in the current shift from the global mono system to the local place-based bioregion.

Archetypes synthesise to provide the formal patterns (*eidos*) as well as providing the dynamic sources (*arche* and *telos*) of energy and manifestation. Archetypes are thus *dynamically* creative.

10.6 INTEGRAL ECOLOGY AND THE EMERGENCE OF ARCHETYPAL ECOLOGY AND ARCHETYPAL EARTH COMMUNITIES

An archetypal astrological analysis of integral ecology (i.e. the encyclical *Laudato si*) also provided glimpses into an *archetypal ecology*. In addition, integral ecology's vision grounded in the bioregional model was synthesised with archetypal cosmology and pointed to the *emergence of archetypal earth communities*.

10.7 THE EMERGENCE OF ARCHETYPAL EARTH COMMUNITIES

Place-based multi-local earth communities provide multiple realities permeated by, and participate (both consciously and unconsciously) in, archetypal complex expressions. It is this 'tendency to exist', i.e. the archetypal collective cosmic dynamic state, in which earth communities then creatively shape and express in concrete events and experiences. As the current corporate capitalist industrial system experiences extreme stress, these archetypal earth communities represent the punctuated evolution of creativity, where the system soon forms new habits and will become the new resilient norm through morphic resonance. The governance, economics and socio-cultural aspects of archetypal earth communities can be further explained as the synthesis between the bioregional model of Hathaway and Boff (2009:357) and archetypal cosmology (Tarnas (2012) as shown in table 10.1 below.

Table 10.1: Emergent archetypal earth communities.

	Emergent archetypal earth communities	Bioregional Model	Corporate Capitalism/ Industrial Growth
Scale	Region/Community		State/Nation/World
Economy	Multidimensional Multivalent	Conservation/Restoration Stability/Evolution/Adaptation Local/Self-sufficiency Co-operation Primary	Exploitation Growth/Progress Global/Specialisation & Trade Competition Primary
Polity	Indeterminate Contextual Participatory	Decentralisation Complementarity/Subsidiarity Diversity/Consensus Participation/Empowerment	Centralisation Hierarchy/Control Uniformity/Majority rule Domination/Control
Culture	Creative Dynamic	Symbiosis Evolution/Qualitative Growth Plurality/Diversity	Polarisation Violence/Quantitative Growth Monoculture

Source: Adapted from Hathaway and Boff (2009:357); Tarnas (2012)

10.7.1 Economy

The local place-based archetypal earth community simultaneously encompasses larger systemic units, i.e. larger interregional, national and international levels. It is through the principle of subsidiarity that this community is extended and expanded. Archetypal cosmology brings a corrective to the more dominant, one-dimensional neoliberal economic view of life and its mis-enchantment with (green) techno-science and new

markets. The multidimensional, multivalent archetypal cosmology requires an earth democracy and not merely a technocracy. Growth, development, progress and modernity – when humans placed themselves over all other species and accrued meaning, intelligence, consciousness only to the human mind and thus excluded the whole community of life forms and treated them as objects to be exploited or used for human development – was shown to be a myth in the face of current ecological decline and devastation. This ‘myth’ of progress shifts rather to embrace the multi (species, archetypes, processes) towards achieving a radical mythospeculation or the second axial age, i.e. moving from an economics of domination to ecology of care, reverence, compassion, cooperation and participation within an archetypal cosmology.

In addition to the ‘alternatives to development’ or ‘commons’ and ‘degrowth’ proposals in the green revolution discourse, other *contexts* could include ‘making the informal economy visible’ through introducing local currencies, parallel markets, seed banks, household and community skills/talent time banks, indigenous medicine.

Economics in the new emerging cosmology implies that it is no longer about ‘jobs’ or ‘minimum wage’ or ‘just transition’, and more about human earthlings living meaningfully and with purpose within the broader earth community in adopting life-sustaining practices and maintaining the balance of the whole in an I-Thou love relationship. The green transformation discourse had a strong focus on new jobs in the efficient renewable energy sector, but with the shift to archetypal earth communities the focus is on eco-sufficient and bio-local lifestyles; this in turn opens up *livelihood* opportunities in integrated infrastructures, small, medium and micro enterprises (SMMEs), agro-ecological or biodynamic agricultural practices, that do not compromise local needs, decision-making and control, and maintain eco-system balance and renewal. In this way the shift is also away from mega-infrastructures to local-level, smaller-scale food and energy sovereignty and needs. To advance this shift will also require the removal of fossil fuel and agricultural subsidies from mono industrial farming, redirecting military spending, and placing a financial transaction tax on the financial sector. Technology will also thus be more focused on meeting real needs, e.g. treadle

pumps, rainwater-harvesting techniques, a storm water and small water cycle focus versus mega hydro dams, drones or geoengineering. In place of economic exploitation and competition, the new cosmological shift us towards eco-sufficiency, restoration, local place-based care, compassion and co-operation.

As mentioned earlier, previous Uranus-Pluto alignments have been characterised by huge *demographic shifts*. An example of this was seen in the just transitions discourse with a shift in focus to informal/slum cities in developing countries. The demographic shift in focus to the youth, to the local bioregion space and scale provide additional examples of the Uranus-Pluto demographic shift. Under the current Uranus-Pluto square (2007-2020) and the Saturn-Neptune (2014-2017) alignment we see an added element in consciousness as seen in the demographic mass migration of migrants/refugees unfolding across Europe. The image of Aylan Kurdi, the Syrian toddler, lying face down on the water's edge captured the attention of artists and the media worldwide – in the human consciousness we see Neptune's fluidity of water transporting the migrants; the Uranus-Pluto archetype in the young toddler; death, suffering and the rigidity, crackdown and closure of borders by European authorities (Saturn). Closely linked and in the consciousness of many is the lack of water and severe drought experienced across California (Saturn-Neptune). The multidimensional, multivalent, indeterminate, contextual, participatory, creative and dynamic archetypal characteristics do not enable concretely prescriptive or predictive emergent archetypal earth communities; they are only archetypally predictive in that it points to the archetypal cosmic energies currently present.

10.7.2 Polity

Many have reaffirmed what Pierre Teilhard de Chardin (1881-1955) wrote in the 1930s, namely that 'the era of the nation state is over and it is time to build the earth' (Berry 1999; Boff 1995, 1997; Earth Charter 2000; Shiva 2005; Swimme & Berry 1992; Swimme & Tucker 2011a; Tucker 2009, 2014). Our identity no longer lies in the nation-

state, but rather in our being earthlings working for an earth democracy and the flourishing of the broader earth community.

The image that we have of the modern industrial city has been the construct of urban imaginaries embodied in the understandings and meanings of progress, rationality, secularism and the first wave of urbanisation associated with the Enlightenment (Swilling 2014a:1). However, in archetypal cosmology, governance shifts from the One to the Many in many different ways. Firstly, it shifts from the homogenous top-down mono global nation-state or mega city to the heterogeneous local and place-based communities' decision-making and subsidiarity. The centralised hierarchy of uniformity, control and domination shifts to diversified, decentralised, more participatory community-level empowerment. Secondly, it shifts from the human being as the solar hero ego to the many (species, forms of life, archetypes, cycles) in an I-Thou relationship sharing equal rights, respect and intrinsic worth. Finally, it shifts from multi-cultures and the objectified mono nature towards multi-natures in a pluriverse which simultaneously enjoys a unified centre and energy source.

This shift is from a techno-democracy to an earth democracy that includes the most marginalised and degraded and exploited of the poor and the earth. Public-private partnerships, in so far as they exclude local communities in decision-making and control and remain detached from the broader earth (bioregional) community – need to make the shift that allows for broader participation, inclusion, justice and peace. The developmental nation-state is decentred and repositioned with emergent archetypal earth communities as the primary decision-making level.

10.7.3 Socio-cultural

Both the poor and the earth have been exploited and degraded and to change this will require structural change, an attitude of care, a new life style and being in the earth and not just administrating scarce goods and services or placing an economic value on them and bringing them into the financial market through natural capital accounting.

As mentioned previously (cf. Figure 9.1 and Table 9.2), in the classical era philosophy dominated, during the axial age religion and religious institutions were dominant, and in the modern and post-modern era scientific materialism and the rational discursive dialectic were dominant. In the new emerging archetypal cosmology neither philosophy nor religion nor science dominates. During the axial age the religious institutions provided their own rites of passage, e.g. Christianity had baptism. Within the scientific or modern era the science lab and coat and practising the rational scientific method were part of the chosen ritual. Just as each of these periods had rites of passage and symbols to reflect their worldviews, so too will new rites of passage, symbols and institutions need to be developed to express the radical mythospeculation within a newly emerging archetypal cosmology. Within an enchanted cosmos the ego death and rebirth experience will also need a rite of passage that re-unites the alienated self with the cosmic feminine.

The green revolution was the only discourse that included the marginalised and socially oppressed in a significant way. The new emerging cosmology affirms this stance and states that instead of monocultures, polarisation, violence and quantitative growth, the emphasis shifts to multi-cultures and -natures, heterogeneous societies or communities that evolve qualitatively, respecting and welcoming diversity in religion, class, race and gender. Previously in the disenchanted cosmos there was no dialogue between species, but rather an I-It relationship that empowered a utilitarian mindset and ignored the imaginary. The new rite of passage within an enchanted archetypal cosmology will involve I-Thou symbolism and institutions.

In summary, emergent archetypal earth communities can be seen to be:

Dynamic, multivalent, multidimensional, indeterminate, creative, contextual, participatory, and evolving – i.e. multi-natures-cultures, infrastructures, buildings, materials, ecosystems, abstract principles, personal deities, symbols, sociological, biological or psychological instincts, phenomenological essences, immanent-transcendent, ontological-epistemological, individual-collective, numinous-secular,

place-based evolving stories.

This is only a small sampling of emergent archetypal earth communities and its expansion and elaboration is for future research work.

10.8 ARCHETYPAL COSMOLOGY

The understanding on archetypes has changed over time from the Plato's essential structures of reality, to Jung's essential structures of the human psyche, to Tarnas (2012) seeing the collective unconscious as ultimately residing within the entire ensouled cosmos. An archetypal cosmology was characterised as being multidimensional, multivalent, indeterminate, contextual, dynamic, creative and participatory.

10.9 IMPLICATIONS FOR POLICY-MAKING

Policy formulations tend to be more top-down and a one-size-fits-all approach within a mono state-market framework. The various discourses (green transformation, green growth, green resilience, developmentalism and just transitions) on the green economy all included very mono nation state-centric proposals. The alternatives to development or post-extractives (in the green revolution discourse), as it critiqued the green industrialization agenda, synthesized top-down policy proposals (i.e. quotas and taxes on raw materials, price correction, regional integration, etc.), as well as bottom-up indigenous and social movements proposals (e.g. *buen vivir*), within a heterogeneous understanding of the nation state.

However, the new emerging cosmology shifts identity and policy-making to the bioregion. Decisions are made using the principle of subsidiarity, and thus can feed into sub-national or local municipalities and then national, regional and international institutional arrangements. Emergent archetypal earth communities are archetypally predictable and not concretely predictable, and thus increase in diversity and complexity rather than a one-size-fits-all approach to policy-making. The policy shift is towards the

bioregional scale, space and greater consciousness of archetypal timings (i.e. planetary alignments) for greater participation and co-creativity. These shifts in scale and focus to the bioregional limit the extractives industry and mega-scale infrastructures that are prone to elite corruption practices and reproduce patterns of over-consumption. The bioregional community aids the shift to post extractives and provides post-carbon alternatives whilst addressing social justice and providing a new ethic.

Technology is not aimed primarily at wealth creation but assists in creating local and home-based livelihood opportunities, freeing up time for leisure activities, where both male and female are able to care for children and the environment. Many communities are experimenting with alternatives such as co-housing, biodynamic and agro-ecological farming, public transport systems, wetland rehabilitation, alternative currencies, a solidarity economy, recovery of small water cycles and rainwater harvesting and many other innovative initiatives. These stories need to be documented and shared as they represent the new emerging archetypal communities. These stories also capture local knowledge and history and are passed on generationally. Stories also connect communities to the larger earth story.

Policy proposals are usually outcomes-based and measured by key performance indicators that narrowly focus on discursive analysis. Fostering and recognising intuition and perception within local communities is vital. Knowledge includes hearing and seeing as well as tasting, smelling and feeling. Scientific materialism with its emphasis on measurement, management and control replaced notions of hope. Slowing down to be present and involved in building the earth community is essential. The arts (drama, music, storying), spiritual practices (sacred dances, meditation, breath work), and dreamwork can all assist in this regard.

Policy-makers also play a facilitation role in shifting towards a broader earth democracy. Participatory democracy includes greater social and ecological diversity considerations. Leadership in emergent archetypal earth communities will be more fluid and rotational to meet bioregional needs and aspirations.

10.10 THE WAY FORWARD

Emergent archetypal earth communities provide the cosmological context of the earth story grounded in the bioregional community. The re-enchanted post-modern mind within an ensouled, conscious and participatory cosmos can now also find common ground with more traditional or indigenous wisdom and knowledge.

In moving forward greater emphasis needs to be placed on re-locating to, and re-connecting with the bioregion and building the broader earth community. This includes the interior and exterior, cosmos and psyche, conscious and unconscious, individual and collective, thinking and feeling. It is within this collective that the re-storying and re-imaging of the bioregion can take place. Emergent archetypal earth communities provide the restorative and regenerative capacities making them resilient, life-creating and sustainable.

10.11 CONCLUSION

The entire universe is imbued with a deep and abiding sense of purpose. This is not a blueprint or set design, but rather a subtle allurements drawing the evolution of the cosmos in a certain direction or toward a non-determinative pattern like an ‘attractor’ or a hidden wisdom that subtly shapes the unfolding reality with ever-increasing levels of complexity, interrelationship, diversity and self-awareness, which is similar to the idea of an ‘Omega point’ suggested by paleontologist Pierre Teilhard de Chardin (Hathaway & Boff 2009:261). In one sense this implies a goal, but the goal might actually be evolving. It is this sense of awe and wonder, even bedazzlement that continuously attracts and amazes us within this cosmos we call home. Humanity, as a creation of the cosmos, is bound up in its purpose. As one more consciously seeks to participate both individually and collectively with the unfolding cosmic energies and purpose, not only will one find one’s own fulfilment, but one will also find one’s own unique contribution to the writing of the cosmic story and to the types of action needed for the very many crises that

currently faces this civilisation. The knowledge of the timing of planetary alignments and their potential significance may also provide us with additional insight and consciousness as we journey towards a more sustainable future.

Although the future is unknown and uncertain, the wonder, awe, fascination, and reverence evinced in an archetypal cosmos will continue to attract and inspire us as we improvise in tune with the cosmic energies, the lover of our souls, in life-sustaining imaginaries.

Let ours be a time remembered for the awakening of a new reverence for life, the firm resolve to achieve sustainability, the quickening of the struggle for justice and peace, and the joyful celebration of life (Earth Charter 2000).

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